DOCUMENT RESUME

ED 138 229 HE 008 901

AUTHOR Keyes, Joseph A.; And Others
TITLE Medical School-Clinical Affiliation Study. Final Report.
INSTITUTION Association of American Medical Colleges, Washington, D. C.
SPONS AGENCY Health Resources Administration (DHEW/PHS), Bethesda, Md. Bureau of Health Manpower.
PUB DATE Apr 77
CONTRACT 231-76-0011
NOTE 227p.
AVAILABLE FROM Association of American Medical Colleges, One Dupont Circle, Suite 200, Washington, D.C. 20036

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS *Administrative Policy; Articulation (Program); Faculty; *Graduate Medical Education; *Hospitals; Institutional Administration; *Interinstitutional Cooperation; Interviews; *Medical Education; *Medical Schools; Program Administration; Resource Allocations; Specialization; Statistical Data; Student Placement; Surveys

ABSTRACT

The relationship between medical schools and teaching hospitals was examined from the management perspective to identify factors of the interinstitutional relationships in a variety of settings and to uncover important factors in effective relationships. The study focused on six medical schools and the hospitals with which they were affiliated. By means of site visits, interviews, and surveys, six decision areas were explored: (1) the assignment of medical students to clerkships; (2) the assignment of residency positions by specialty; (3) the initiation of new patient care programs; (4) the selection of education coordinator in the affiliated hospital; (5) allocation of resources for sponsored programs; and (6) participation of volunteer faculty in medical school affairs. Data collected are both presented in tabular form and analyzed. Recurring patterns of issues, problems, and approaches to their management are discussed and a series of observations regarding the effectiveness of medical school-teaching hospital relationships are made. (Author/MSE)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

MEDICAL SCHOOL—CLINICAL AFFILIATION STUDY

FINAL REPORT

Association of American Medical Colleges
One Dupont Circle, N.W., Washington, DC 20036

U.S. Department of Health, Education and Welfare
Public Health Service
Health Resources Administration
Bureau of Health Manpower
Contract No. 231-76-0011

© Association of American Medical Colleges, 1977

The Government retains the right to use, duplicate or disclose the contents of this report and to have or permit others to do so.

MEDICAL SCHOOL - CLINICAL AFFILIATION STUDY

JOSEPH A. KEYES, J.D.
PERRY D. COHEN
GEORGE R. DEMUTH, M.D.

Walter G. Rice, M.D.,
Consultant

FINAL REPORT

DIVISION OF INSTITUTIONAL STUDIES
ASSOCIATION OF AMERICAN MEDICAL COLLEGES

April 1977

The work upon which this publication is based was supported in part by the Bureau of Health Manpower, Department of Health, Education and Welfare pursuant to contract number 231-76-0011. However, any conclusions and/or recommendations expressed herein do not necessarily represent the views of the supporting agency.

ACKNOWLEDGEMENTS

This project could not have been accomplished without the support and assistance of many individuals. Susan R. Langran, Research Assistant in the AAMC Division of Institutional Studies labored long and hard on the data gathering instruments, on collating and analyzing the information returned, and on organizing the site visitor's handbooks. Richard K. Knapp, Ph.D., Director of the AAMC Department of Teaching Hospitals assisted the study group in conceptualizing the project design, participated in one of the site visits, played an active role in the meetings of the project review committee and reviewed many drafts of the report. His keen insights sharpened our thinking and gave balance to our perspectives. James Bentley, Ph.D., Assistant Director of the Department of Teaching Hospitals was an active participant in many of our discussions; his challenge of our assumptions and insistence on clear articulation of our perceptions were major contributions. In addition, Dr. Bentley enriched our concepts regarding the impact of external controls and regulations. Finally, his critical reviews of our drafts assisted immeasurably in achieving greater clarity in our final report. Marjorie P. Wilson, M.D., Director of the AAMC Department of Institutional Development, gave her personal support and that of the Department throughout the project. Her insistence upon high standards and her perceptive understanding of our subject matter guided and inspired our efforts.

We are also indebted to our Project Review Committee which met twice to review our work; first to react to our proposed study design and then to critize our draft report. The committee included:

Robert U. Massey, M.D. Chairman
Dean, University of Connecticut
School of Medicine

Richard Kraft, M.D.
Chief of Surgery
St. Joseph-Mercy Hospital
Ann Arbor, Michigan

Stuart J. Marylander
Executive Vice President
Cedars-Sinai Medical Center
Los Angeles, California

Thomas K. Oliver, Jr., M.D.
Chairman of Pediatrics
University of Pittsburgh
School of Medicine

George T. Singleton, M.D.
Assistant Dean for Clinical Affairs
University of Florida
College of Medicine

We are grateful to them for their time, patience and expert advice.

Finally, we wish to express our thanks to six key persons without whose cooperation the project would have had no hope of success, the school liaison representatives. They must remain nameless because of the promised anonymity of the participating institutions, but we extend to them our special appreciation. They responded graciously to our frequent and perhaps excessive calls for information, and tirelessly and unselfishly assisted our endeavor.

We accept full responsibility for any errors of fact, mistakes in judgment or infelicitous expressions which may remain.

TABLE OF CONTENTS

	Page
List of Tables	v
List of Charts	vii
List of Figures	ix
Executive Summary	xi
Chapter I. Background and Method	1
A. Background	1
B. Method	2
Chapter II. Patterns of Participation in Educational Programs of Clinical Facilities Associated with Six Medical Schools	7
A. Description of Patterns of Educational Activity in Each of the Six Networks	7
B. Analysis of Patterns of Educational Activity in Six Medical Education Networks	44
C. Intensity of Educational Effort in Affiliated Hospitals	56
Chapter III. Management of Affiliation Relationships	61
A. Motivations of the Institutions and Costs Incurred	61
B. Governance as a Factor in Affiliations	72
C. Classification of Affiliations	80
D. The Management Problem	85
E. Elements in Effective Management	92
F. Stabilizing and Unbalancing Factors	95
Chapter IV. Further Considerations Relevant to the Management of Affiliations	97
A. Impact of Controls and Regulations	97
B. Regionalization of Patient Care	104
C. Affiliation Networks as Education and Patient Care Systems	106
D. Clinical Specialties with Special Characteristics	108
E. Clinical Teaching in the Ambulatory Setting	111
F. The University Hospital's Needs and Objectives	113
G. Experience of Each Institution	114
H. Allocation of Resources for Sponsored Programs	116
I. Affiliation Systems in Transition	119
Chapter V. Summary Observations and Conclusions	121
Appendices	
I. Study Method	129
II. Six Affiliation Networks - Descriptive Data	141

LIST OF TABLES

		Page
1.	Distribution of Programs and Resources in Six Medical Education Networks	47
2.	Decision Making in Undergraduate Medical Education	75
3.	Decision Making in Graduate Medical Education	78
4.	Dendrogram of Medical School Clusters	134

LIST OF CHARTS

		Page
Network A		
Chart I	- Summary of Programs	144
Chart II	- Distribution of Undergraduate Medical Education and Resources	146
Chart III	- Distribution of Graduate Medical Education and Resources	147
Network B		
Chart I	- Summary of Programs	150
Chart II	- Distribution of Undergraduate Medical Education and Resources	152
Chart III	- Distribution of Graduate Medical Education and Resources	153
Network C		
Chart I	- Summary of Programs	157
Chart II	- Distribution of Undergraduate Medical Education and Resources	158
Chart III	- Distribution of Graduate Medical Education and Resources	159
Network D		
Chart I	- Summary of Programs	163
Chart II	- Distribution of Undergraduate Medical Education and Resources	164
Chart III	- Distribution of Graduate Medical Education and Resources	165
Network E		
Chart I	- Summary of Programs	168
Chart II	- Distribution of Undergraduate Medical Education and Resources	170
Chart III	- Distribution of Graduate Medical Education and Resources	171
Network F		
Chart I	- Summary of Programs	174
Chart II	- Distribution of Undergraduate Medical Education and Resources	178
Chart III	- Distribution of Graduate Medical Education and Resources	179

LIST OF FIGURES

		Page
1.	Distribution of Programs and Resources in Network A Institutions	48
2.	Distribution of Programs and Resources in Network B Institutions	49
3.	Distribution of Programs and Resources in Network C Institutions	50
4.	Distribution of Programs and Resources in Network D Institutions	51
5.	Distribution of Programs and Resources in Network E Institutions	52
6.	Distribution of Programs and Resources in Network F Institutions	53
7.	Distribution of Programs and Resources in Network F Institutions in Metropolitan Area of Medical School	54
8.	Distribution of Programs and Resources in Network F Institutions Geographically Remote from Medical School	55
9.	Intensity of Educational Effort of Major Clinical Facilities in Six Networks	59
10.	Intensity of Educational Effort of Clinical Facilities in Network A	148
11.	Intensity of Educational Effort of Clinical Facilities in Network B	154
12.	Intensity of Educational Effort of Clinical Facilities in Network C	160

Page

13. Intensity of Educational Effort of Clinical Facilities in Network D 166

14. Intensity of Educational Effort of Clinical Facilities in Network E 172

15. Intensity of Educational Effort of Clinical Facilities in Network F 180

MEDICAL SCHOOL-CLINICAL AFFILIATIONS STUDY

EXECUTIVE SUMMARY

Affiliated hospitals are of increasing significance in the United States' system of providing medical education at both the undergraduate (pre-M.D.) and graduate (internship and residency) level. This study examined the relationship between medical schools and teaching hospitals from the management perspective. The purpose was to identify factors descriptive of the interinstitutional relationships in a variety of settings and to seek to discover what might be important factors in effective relationships.

From the universe of 114 medical schools with students in clinical training and over 1100 affiliated teaching hospitals, the study group selected a sample of 6 medical schools and focused the study on the relationship between these schools and a subset of hospitals with which they were affiliated. Certain non-hospital related ambulatory care facilities participating in the school's teaching program were also of interest. The data gathering process involved three discrete steps: 1) the identification and briefing of a liaison representative at each medical school in the sample, 2) the collection of information by way of survey instruments, and 3) site visits to the medical schools and a sample of their affiliated hospitals and other clinical facilities. The site visits involved numerous interviews with deans, hospital directors and other administrative officials as well as key department heads, service chiefs and educational coordinators in the various institutions. By way of stimulating discussions, the interviews explored six decision areas: 1) the assignment of medical students to clerkships; 2) the assignment of residency positions by specialty; 3) the initiation of new patient care programs; 4) the selection of education coordinator in the affiliated hospital; 5) allocation of resources for sponsored programs and 6) participation of volunteer faculty in medical school affairs.

This report provides an analysis of the data collected by both the survey and the interview techniques. It includes tabulations illustrative of program scope and resource allocation among institutions in the sample. It also includes a descriptive analysis of the relationships

observed. Recurring patterns of issues, problems, and approaches to their management are discussed and a series of observations regarding the effectiveness of medical school-teaching hospital relationships are made. These observations all spring in one way or another from the dynamics of a system of medical education as conducted in the United States which is fundamentally dependent on student participation in, and gradually increasing responsibility for, patient care under faculty supervision.

CHAPTER I -- BACKGROUND AND METHOD

A. Background

The American system of medical education at both the graduate and undergraduate level is intimately tied to patient care. Its fundamental approach is that clinical skills and clinical judgment are acquired through actual participation in, and gradually increasing responsibility for, the management of patients under faculty supervision. Thus, medical education programs are dependent upon access to the patient care process. Many medical schools own or operate (or are part of institutions which own or operate) teaching hospitals partially satisfying this need. Others are completely dependent upon gaining the appropriate access to hospitals managed by other organizations. Few medical schools, however, are able to accomplish their entire set of program objectives in their own teaching hospitals. Consequently, nearly all medical schools have developed affiliations with other hospitals.

The number of hospitals with accredited residencies affiliated with medical schools has more than doubled since 1963. In that year there were 556 such hospitals; in 1975-76 there were 1148.[1] Several factors account for this rise

- The number of medical schools increased from 87 to 114 during that period.
- Medical School enrollment increased from 31,491 to 55,818.
- Medical School curricula introduced more flexibility and an increased emphasis on electives.
- There has been an increased emphasis on primary care, creating a need for access to more community hospitals and ambulatory care centers.

---

1. Directory of Approved Internships and Residencies, 1963 Table 12, p. 10; Directory of Accredited Residencies, 1975-76, Table 13, p.14 American Medical Association.

- Expanded undergraduate enrollments have created a parallel need for a large number of graduate (internship and residency) positions.

- Academic standards for graduate programs have been more rigorously enforced, making medical school assistance more important to the programs.

- Facilities planning constraints, reimbursement limitations and capital costs have limited the ability of university hospitals to expand to meet these needs.

These developments have stimulated a substantial interest in medical school-hospital affiliations on the part of medical school administrators, department heads and faculty. Similarly, hospital officials have a direct interest in understanding the dynamics of such relationships. Both medical school and hospital officials have sought appropriate materials for briefing members of their boards of trustees. In institutions with established affiliations, there is a desire to better manage the relationships. In institutions about to enter into an affiliation, there is a need to better understand what such a step will entail.

No significant effort had been made to explore the matter of medical school-teaching hospital relations since the landmark study of Cecil Sheps, et al in 1965[2]. The present study was undertaken to rectify that deficiency and to learn what lessons might be available to us in the experience of the past decade.

B. Method

From the universe of 114 medical schools with students in clinical training and over 1100 affiliated teaching hospitals, a sample of six medical schools was selected and the study focused on the relationships between these schools

---

2. Sheps, C.G., et al, "Medical Schools and Hospitals -- Interdependence for Education and Service", Journal of Medical Education, Part II, Vol. 40, September, 1965

and a subset of hospitals with which they were affiliated. Certain non-hospital related ambulatory care facilities were also selected for study. The medical schools were chosen in part through the use of a clustering technique which grouped the schools along dimensions relevant to the study: number of students, increase in enrollment, number of affiliations, increase in affiliations over the past 10 years, age of the school, ownership of the school, number of hospitals owned or operated by the school, percentage of total expenditures from sponsored research, volunteer faculty as a percentage of full-time faculty, percentage of full-time faculty in the primary care specialties and the relationship between the SMSA population and the number of medical students. The schools ultimately were chosen from each of the four resulting clusters to reflect diversity in age, ownership, ownership of teaching hospital, and geographic location. Additional factors considered in the final selection included the existence of unique or interesting features in the affiliation network. Included were cases involving a hospital consortium, competition between several schools in a geographic area and a statewide system of affiliations.

The selection of affiliated hospitals for study was in part a component of the selection of the medical schools. A subsample of the hospitals affiliated with the school was selected with the school's cooperation and assistance. Hospitals chosen were illustrative of the scope of the school's relationships, particular problems encountered or unique situations available for examination. In general, hospitals which provided a substantial portion of the undergraduate program, represented both general medical and surgical hospitals and specialty hospitals, and those which made a special contribution to the school's educational program were chosen for more detailed examination.

The data gathering process involved three discrete steps: (1) the identification, briefing and development of a continuing working relationship with a liaison representative at each sample medical school, (2) the collection of quantifiable information by way of survey instruments, and (3) site visits to the medical school and a sample of its affiliated hospitals and clinical facilities.

The school liaison officer was the recipient of the survey instruments and the coordinator of the institution's

responses. He assisted in the identification of the key individuals in the institutions to be visited and scheduled the site visits. Finally, he was the recipients of the site visit report and coordinator of the institution's review and comment on the report.

The survey instruments consisted of two rounds of questionnaires to the medical school. The first round requested verification of published data and elaboration of additional detail requisite to an understanding of the scope of the school's network of affiliations. The second round requested additional detail on the nature and scope of the educational programs conducted in the affiliated institutions, information on the resources available to the programs and some specifics on the mechanisms utilized in the management of the programs.

The site visits were conducted by members of the study group and in each case included an experienced medical educator and a research associate trained in organizational structure and behavior. Two teams had an additional member from the AAMC staff with experience in dealing with concerns of deans and hospital directors. Each visit involved a series of interviews with representatives of both the administration and the faculty or medical staff at the school and at least four affiliated hospitals. The site visit interviews explored in some detail the perspectives of these officials on the six issues under investigation and others which they identified as significant to the relationship.

From the myriad of issues which could have been examined as descriptive of the relationship, a limited number were chosen for investigation at each of the sites. A specific decision was made, however, to permit the identification of issues which might emerge on site as crucial to a particular relationship. The study specifically excluded a detailed examination of the financing and costs of the joint programs of the affiliated institutions. The study group recognized that while these matters were of substantial significance, the format of the study was not appropriate to such an investigation, nor were the requisite skills or resources available to undertake such a task. Costs and financial arrangements were explored in general terms, however, where they were considered illustrative of certain management objectives or problems.

The six decision issues selected for discussion were: (1) the assignment of medical students to clerkships; (2) the assignment of residencies by specialty; (3) the initiation of new patient care programs; (4) the selection of the education coordinator in the affiliation institution; (5) allocation of resources for sponsored programs; (6) the participation of volunteer faculty in medical school affairs.

A report was written on each site visit which was returned to the medical school for review and comment. The character of the visit involved the identification of sensitive issues between the parties to the affiliation. In order to enable the study team to explore such matters in some detail and to facilitate the expression of candid observations, a pledge of confidentiality was made to each institution and participant. Consequently, while these reports are written and provide the basis for the study group's observations, discussions, analysis and conclusions in this report, the reports themselves have not been submitted with this report in order to honor the pledge of confidentiality. Examples of specific problems or management techniques illustrative of the patterns discerned by the study group are provided without institutional or personal identification.

The analysis of the data collected consists of two parts: (1) tabulations of the quantifiable information illustrative of significant findings with respect to program scope and its relationship to resources allocated to the program and (2) a descriptive analysis of the relationships observed in which recurring patterns of issues, problems and approaches are discerned and discussed.

Appendix I describes the study methodology in greater detail.

CHAPTER II -- PATTERNS OF PARTICIPATION IN EDUCATIONAL PROGRAMS OF CLINICAL FACILITIES ASSOCIATED WITH SIX MEDICAL SCHOOLS

In order to examine the complexity and subtlety of the relationships among medical schools and their clinical facilities the study focused on a sample of six medical education networks. Data descriptive of the broad patterns of distribution of educational activity throughout the network were collected. A smaller number of hospitals and clinics was selected for more detailed investigation of the forces in the network and the processes of management between the school and individual affiliated institutions and among the whole set of affiliates. The following Chapters will address the insights developed on the specific process of management. In this chapter each of the six networks is described. In addition, the patterns of distribution of the educational activity in the networks are analyzed in terms of the relationship of graduate programs to the medical school and in terms of the intensity of educational effort in the affiliated hospitals and clinics.

Applicability of Results to Other Medical Schools

The six networks have been selected to represent a variety of types of schools and networks on a number of dimensions important to the study. These characteristics were discussed in the previous section and are elaborated in greater detail in Appendix I.

The data describing the broad patterns of distribution of educational activity of the six presented in the following pages are only suggestive of some of the important patterns that might be encountered on other networks. The sample is far too small and the factors far too complex to permit broad generalizations from this data.

A. Description of Patterns of Educational Activity in Each of the Six Networks

In this section each network is described in summary

fashion. It includes a narrative section of two to six pages describing key features of the focal medical school, its organization, its educational program, and its relationships to the city and state in which it is located. It describes key features of the medical community, the character and resources of area hospitals and some of the dynamic forces influencing its relationship with affiliated institutions. Finally, it provides some description of the extent of medical school reliance upon the affiliated institutions for medical school programs.

The narrative is supplemented by a graphic sketch of the affiliations. This illustrates the relationship with designated hospitals whose ownership and type of services will be characterized. Intervening organizations, e.g., consortia, other medical schools affiliated with specific hospitals, are also displayed.

Appendix II contains a series of charts and tables related to each network. The first of these provides an overview of the distribution of educational programs among the university hospital and affiliated institutions. This chart displays the involvement in both undergraduate and graduate programs of each hospital by discipline. Undergraduate program involvement is described in terms of Full Year Equivalent Students (FYES)* for both required and elective clerkships. Graduate program involvement is described in terms of both the number of programs and the number of positions offered and by the program sponsor.

The second chart relates resources in terms of hospital beds available to programs of graduate medical education. It displays total beds and teaching beds by hospital along with the number of house officer positions in integrated and affiliated programs of graduate medical education.

The third chart relates resources in terms of

$$\text{FYES} = \frac{\text{\# of students X duration of program}}{\text{total academic year}}$$

hospital beds and house officers positions to the number of FYES receiving primary and elective clerkship experiences in the hospital.

The second and third charts reflect the judgment of the study group that the best indicator of resources available to teaching programs in a hospital setting is the number of hospital beds in the hospital and those assigned for teaching purposes. The third chart is based on the further judgment that the existence of a graduate medical education program and the number of house officers assigned are further indicators of resources available to the undergraduate program. These indicators, while by no means complete descriptors of the range of resources, were chosen because they were judged to be both important in their own right and suggestive of a range of resources which are normally found when they are present. A hospital's size, for example, is frequently indicated by the number of beds it supports, not simply because this indicates the number of patients it can serve at one time, but also because this number is also suggestive of the size of the supporting services such a hospital would be required to maintain.

1. NARRATIVE DESCRIPTION OF MEDICAL EDUCATION NETWORK A

Background and Context

Educational network A is located in the area of a moderate sized city (population just under 1 million) which has generally well-developed medical resources. There are over 200 physicians per 100,000 population and more than 3,000 hospital beds in the metropolitan area.

The medical school has recently been developed, with the first students entering in the past 10 years. The school is part of the state university system and is located on the recently constructed suburban medical center campus along with the dental school and a small university hospital.

The school, as originally planned, was to have a 400-bed teaching hospital and a new 300-bed V.A. hospital in close proximity to provide a basis for its clinical education programs. The plans did not materialize and the old 180-bed V.A. hospital (20 minutes drive from the medical center) and a deteriorating public hospital were the original home base clinical sites. When the 200-bed university hospital opened, the public hospital was closed except for an ambulatory clinic which may be phased out.

The undergraduate medical student enrollment is still in a growth period and the need for clinical facilities for teaching continues to grow as well. The original 48 entering students has now reached 64 in the clinical years and 80 in the preclinical years. There are plans to accept an additional 20 students in advanced standing through COTRANS.

In contrast to the relatively small base of operation for the school, even when supplemented by a V.A. hospital which is substantially integrated with the school, there are a large number of beds and medical resources within the community. Prior to the development of the school, several of the community hospitals had developed full-time staff, educational programs, and highly specialized tertiary service facilities. With the shrinking of the plans for the development of home-based medical center facilities, the importance of these resources has grown. This importance is illustrated by the fact that 80% of

undergraduate medical education in the clinical years is accomplished in affiliated hospitals and over half of the regular academic faculty appointments have been awarded to staff based in these hospitals.

Consortium

In the particular context in which it has developed, the medical school has provided a catalyst for the formation of a corsortium of hospitals in the area. This organization has as its purpose the cooperative development of plans for health service and education programs. The hospitals had a history of being very competitive with each other and had increased their growth prior to the construction of the medical center. A change in economic climate for hospital development, the increase of regulatory pressure by an effective state hospital cost commission and certificate of need process, and the encouragement of local industry groups represented on hospital boards all set the stage for this voluntary regional planning effort. The developing medical school provided a force for change, an image, and even a threat to patterns of practice, but it also provided a common thread for interaction around education programs. The consortium formalized the growing cooperation with medical disciplines and established a forum for communication among boards of directors, administrators, health service professionals and academic professionals. The consortium is the mechanism by which the medical school relates to its major teaching affiliates.

Role of the Medical School in the Community

In a community where there already was well-developed tertiary care facilities before the school began, ample physician manpower and a wide variety of graduate medical education and even limited undergraduate medical education programs, the role that the medical school could establish in the community had to be focused and circumscribed. The school has become the acknowledged leader in the research and education council of the consortium and the dean is ex officio chairman, but the university hospital is an equal when it comes to development of health facilities and programs. The school has contributed to the health system in the community by developing a productive scholarly approach to

medical care delivery which keeps the community abreast of the rapidly advancing technology. The school's recruitment efforts have complemented the medical specialties represented in the area. The school has also been successful in acquiring sponsored research support (from $3 million in 1974 to a projected $12 million in 1977) which adds another dimension to the capabilities found in the community.

Medical Center and Home-Base Facilities

As has been suggested, the home-base clinical facilities for the medical school have been designed to include the V.A. hospital as a supplement to the university hospital. Substantial integration with this general medical and surgical facility is accomplished with financial support of the V.A. central office for research, education and patient care programs by the dean's committee structure and joint appointments, including the appointment of a single individual as medical school Associate Dean/V.A. Chief of Staff. In addition, an ambulatory care facility, which was formerly part of the now closed public hospital, continues to be operated by the school on a limited basis.

Affiliated Hospitals

The majority of the education and service programs in the affiliation network are located in four major affiliated hospitals, all of which relate to the medical school through the consortium. Each hospital is a private non profit general acute care hospital. Hospital A3 has a long tradition of excellence in education with its own housestaff programs and limited affiliations with two neighboring medical schools for clerkships and specialty advanced training. It is a 1000-bed institution which is the major tertiary care center in the area. It provides the largest amount of education for medical students. It has assisted in training family practitioners and is the base for several medical school department heads (Neurology and Neurosurgery, Acting Surgery Chairman). On the other hand, its specialized programs have been fleshed out and its prospects for the future have been enhanced by the school's presence.

Hospital A4 also has a long tradition of comprehensive independent graduate medical education programs.

About the time the school was beginning, it expanded its full-time staff and subspecialty coverage, especially in Internal Medicine. It has been very aggressive in the development of tertiary care services, has a substantial portion of undergraduate students and has assisted in the family medicine development. The affiliation has assisted greatly in its recruitment (both medical specialists and housestaff) and in achieving accreditation of training programs, and it enjoys a close relationship to the Department of Medicine. This hospital has the only community-based division head in the department.

Hospitals A5 and A6 have less extensive programs but are developing rapidly and have been assisted by the school in this development. Each has had its own residency programs, participates in medical school programs, and has taken significant numbers of medical students. Hospital A5 has allowed the school to have greater influence than other hospitals in order to increase the quality of its staff and programs. It had provided the prime base for the OB/Gyn and Surgery program of the school and several subspecialists have been recruited.

Of the other consortium hospitals, one (A14) has no education programs and the other two are specialized facilities. Hospital A7 is a small children's hospital which is also a location for rehabilitation for the medical school. It participates principally in the pediatrics and orthopedics, neurology and urology programs of the school. A8 is a nationally know psychiatric facility with its own highly regarded training program.

The medical school is associated with several other hospitals and health facilities with education programs and there are a number (13) of allied hospitals which are affiliated for continuing education. The original RMP program assigned all hospitals in the state to one of the two medical schools for this purpose. Minor affiliations include A10 and A11 which participate in the Pathology and Laboratory Medicine programs of the school. A11 also has an "Affiliated" family medicine program which operates almost independently of the medical center. There are clerkship rotations to a home for the aged (A9), and there are two hospitals downstate (A12) and (A13) which have their principal affiliation with the other medical school in the state, but have their own residency programs

and a combined pediatrics program. Because of personal contacts to the focal medical school, each has taken students in several areas. Finally, there is an informal arrangement with a hospital in a neighboring state where students will sometimes take clerkship rotations.

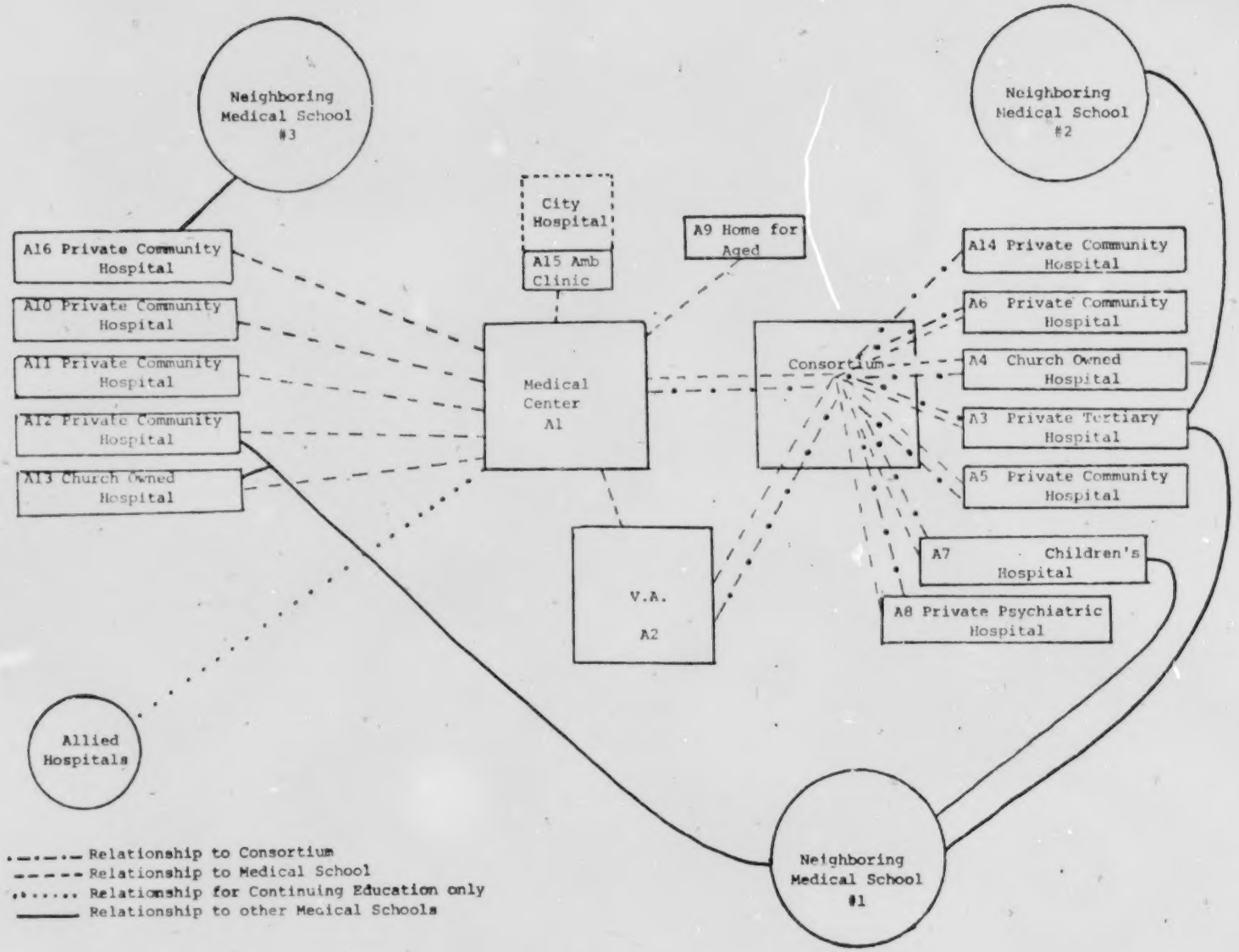


DIAGRAM OF NETWORK A.

2. NARRATIVE DESCRIPTION OF MEDICAL EDUCATION NETWORK B

Background and Context

Educational Network B is located in a large metropolitan area (population almost 3 million) with well developed medical resources. There are three medical schools in the area and a fourth is scheduled to accept students. In addition, there are a number of major tertiary care hospitals in the area associated with one or more of the medical schools.

The focal medical school is part of a church related university and it has more than a 100-year history of involvement in academic medicine. Many of the school's alumni practice in the community. Their loyalty to the medical school is an important resource.

Traditionally, each department in the school has developed clinical resources external to the medical center based on departmental needs and opportunities. With the two other medical schools in the area there has evolved through this method a complex set of multiple relationships with the publicly owned hospitals in the area (City Hospital, and Federal Hospitals). In the past there has been competition and instances of conflicts over these resources among the medical schools. Upon the initiative of this Network B Medical Center, a consortium of Health Science Centers has now been established in which the Deans and Vice Presidents meet monthly to coordinate planning among the members.

Affiliations with private hospitals in the area have also evolved through the entrepreneurial efforts of department chairmen. There has been a tendency for more exclusive relationships with private hospitals but this is not entirely the case. Because of the importance for the educational process of comprehensive department arrangements and the risk of crises in relationships based on informal friendship agreements, there has been instituted a policy for both Medicine and Surgery to be involved in major affiliations and umbrella institutional agreements have been utilized to establish a commitment to on-going relationships.

For more than two years a centralized Medical Center Office has been in existence for all affiliations (medicine; dentistry; nursing; allied health science). All affiliation agreements must now be in writing describing educational, patient-service, appointment, fiscal, numerical and other particulars of the affiliation arrangements. A Medical Center Committee of all disciplines monitors, evaluates and recommends; all affiliations must be finally approved by the Office of the Chancellor. This arrangement has replaced the previous system of relationships which were handled by the department chairmen through department channels.

The general environment of three governmental jurisdictions, the geographic dispersion of hospitals, and competition among hospitals for educational affiliations and service development have resulted in a diffuse but organized and coordinated network of affiliations which in a number of instances have medical school, dental school, and nursing school programs as a common thread. Description of the network is best accomplished by identifying how each affiliate fits into the total program.

In response to Federal health manpower initiatives the medical school has increased its entering class from 135 to 205 during the past half dozen years. Affiliated institutions have been and continue to be an important resource for clinical facilities to teach these students. This institution was the first affiliate with the community general public hospital (more than 70 years ago) and has had continuing private, non-profit hospital affiliations for more than 28 years. In all over 2/3 of the undergraduate teaching is done outside the medical center. Through University selection absolute or geographic faculty is located full-time at these affiliated hospitals; all departments rely heavily on these outside resources.

The Medical Center

The medical center has a 370 bed teaching hospital (B1) but has just opened an additional 164 bed concentrated care unit. As other major medical centers, this university hospital serves as a major referral center for the metropolitan area. Because of the previous limited size of the facility, there is no major concern about referral sources from affiliates. There has been a constraint on the extent of university sponsored residency programs

in affiliates. A requirement in Medicine and Surgery for residents to spend 50% of their time at the medical center restricts the number of residents which can be rotated to affiliates to a number less than what is desired by the hospitals seeking affiliation. A dilemma arises in this situation because residency programs in affiliates are important to student education and more than half of the students are educated outside the medical center. The school has made use of affiliated programs and independent residencies to alleviate the problem. Also, the recent 40% increase in bed capacity of the university hospital should gradually alleviate this stricture. The programmed goal through a developed series of moves and additions will establish a 600 bed on-campus hospital in operation by 1982.

Affiliated Hospitals

Medical schools have traditionally utilized publicly owned hospitals as a principal clinical teaching base or as a supplement to home base clinical facilities, and in the process they have enhanced the standard of care for the publicly supported patient populations. The multiple medical schools in this setting have limited the ability of any one school to exclusive relationships with publicly owned institutions. However, in 1975 one of the three (3) private medical schools withdrew from the publicly owned hospital.

The V.A.hospital (B2) operates with the familiar dean's committee structure only there are 5 deans (3 medical and 2 dental) on the committee and there is a subcommittee structure consisting of the schools' chairmen and the hospital chief for each department. The hospital is in an enviable position among V.A.'s because it has three schools for help, it has a very large veterans population in the area, and therefore a high census, it is designated as tertiary center and it has a higher turnover of patients than other V.A.s. This situation, plus the other V.A. benefits such as research support, has led to high morale among the staff (who are all full-time) and high identification with the hospital rather than only with one of the schools. The department of surgery is closely aligned with the focal medical school, while internal medicine is integrated with another school and affiliated with the focal school.

Psychiatry has a split service and the chief identified with the V.A. organization.

The City Hospital (B3) like many municipal hospitals, is in a state of uncertainty. New and capable professional administrative and clinical management has been appointed in an Executive Director and a Medical Director. However, the management structure is fragmented due to bureaucratic control of administrative systems in the city government and to the long time domination of professional services by three medical schools, each with parochial interests. However, as mentioned earlier, one other medical school recently withdrew (1975). This situation, the poor financial condition, and the loss of hospital accreditation make the responsibility for the hospital as much a burden for this school as a supplement to its programs. There is a substantial investment of quality faculty at department and division levels in Internal Medicine, but the department is separate from the medical center (affiliated residency); there is an integrated program with a competent full-time chief, but otherwise limited support in Surgery which hurts the total program; and there is substantial involvement in OB/Gyn (the major location for clerkships) in a jointly run service with the other school.

There are two military hospitals (B4 and B5) affiliated with the school. Both have a full range of independent residency programs and tertiary care services of the highest quality. These are ideal teaching settings for students who fit easily into the program and both make a substantial contribution to the undergraduate medical education programs.

There are two private community hospitals (B6 and B7) located in the suburbs, which have comprehensive educational programs (Medicine, Pediatrics, Surgery and others). These hospitals provide experience for students and residents in a primary and secondary care private practice setting which cannot be offered in the medical center or public hospitals.

Hospital B6 has a long-time institutional relationship with the medical school and it is staffed primarily by alumni of the school. Traditionally, it has had complete coverage by Medical School residents. The affiliation has been reduced in vigor temporarily

because the hospital has had a decline in census and financial health. This decline is associated with opening a completely new facility and money transition problems. Although student teaching has been commendable, the hospital has not provided the education experience for house staff which is comparable to other affiliated hospitals. Programs have been well coordinated with the university but because the goals are different, the hospital has protected its autonomy by electing its own chiefs and developing its own programs exclusive of the school.

Hospital B7 is a relatively new hospital in a growing community. With the help of several medical schools it has aggressively developed training programs and tertiary care services. Aside from "town-gown" problems in Surgery the hospital has provided resources and given ample control to the school to make it an attractive setting. The hospital has maintained flexibility and enhanced its growth by having two other schools sponsor education programs (OB/Gyn, Urology, Family Medicine).

A third community hospital (B8) has a less complete relationship. Surgery is the major participant and OB/Gyn and Psychiatry have a more limited involvement. This hospital wants an enlarged affiliative arrangement but the medical school, concerned about overextending its resources, has moved no further. The Department of Surgery is keeping the door open to developing a relationship in Hospital B9 by rotating one resident there.

There are a number of other specialized departmental affiliations in specialized settings. There are psychiatry residents and students assigned to the city owned and operated area day hospital (B10). A number of psychiatry students also rotate to an in town Psychiatric Hospital (B11) which has its own Psychiatric Residency Program. Another long-term psychiatric facility (B12) is also utilized for both resident and student teaching.

There is a Neonatology program which is run by the medical school in a downtown Obstetrics Hospital (B13) and in a major tertiary hospital (B14) which has its primary affiliations to another medical school. Pediatrics has an affiliation with a state hospital for the mentally retarded (B15) and they are developing a relationship to the county health department and planned hospital in the same area (B16.)

Another community hospital (B17) which has had departmental relationships to the School in the past and still has connections to another School, is developing an affiliation for Family Medicine residents. The Medical Center through the Community Medicine Department with the participation of nursing and dentistry has also developed a University sponsored but separately incorporated HMO (B18) which is governed by a University official (Chairman of the Board is the University Chancellor) - Community representative board. This unit which now has 20,000 enrollees will provide four separate clinic locations for ambulatory care teaching in the future.

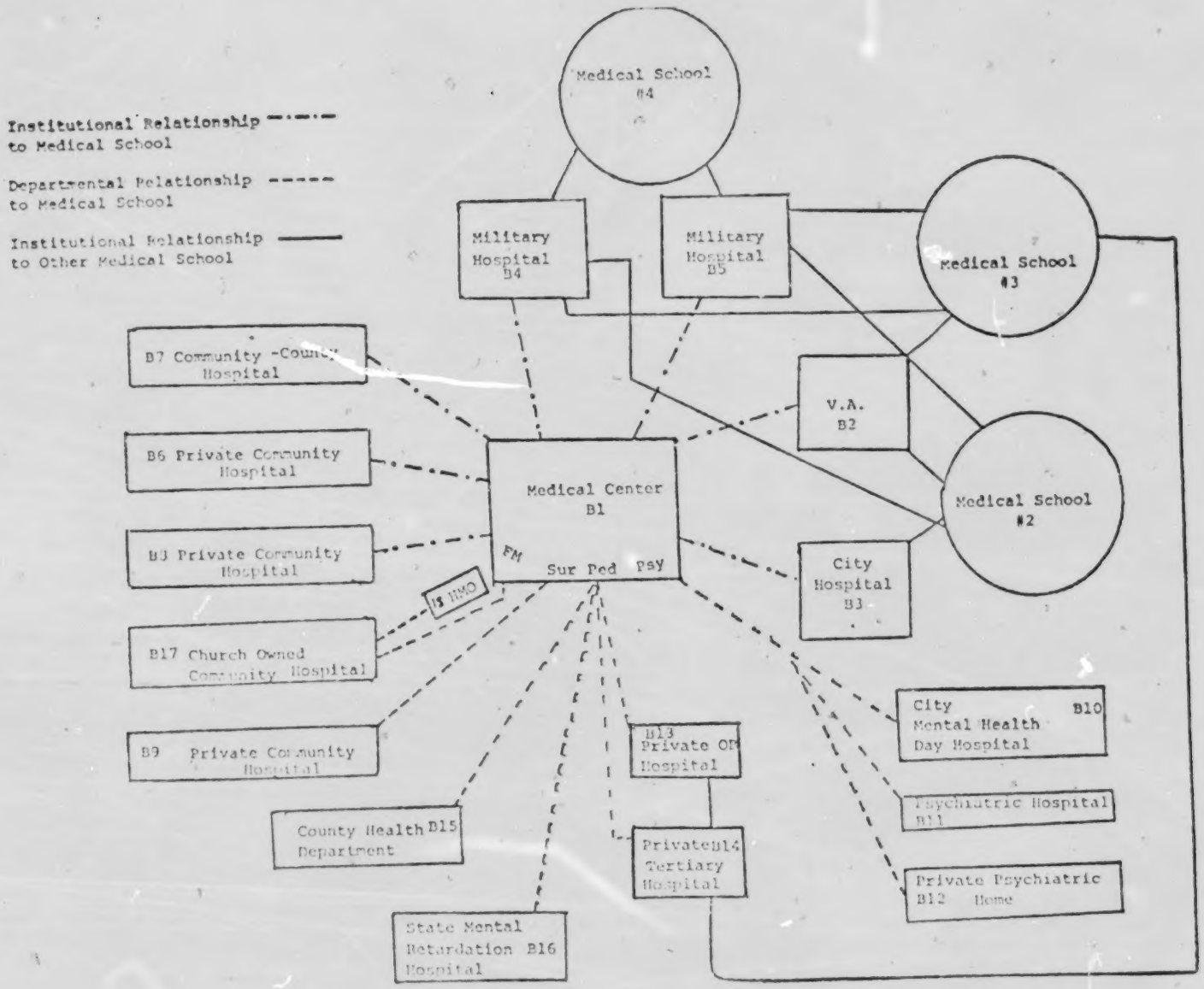


DIAGRAM OF NETWORK B

3. NARRATIVE DESCRIPTION OF MEDICAL EDUCATION NETWORK C

Educational Network C is located in the vicinity of a medium sized city which is a regional center for agriculture and industry for the surrounding area. The population of the 20 county region is 1.4 million. The medical school is a freestanding institution created by the state government less than 10 years ago to service the medical resource development needs of a portion of the state. There are four other schools in the state with which the school must compete for public funds. Three are state-owned and two of these have not yet graudated their charter class. A privately endowed school receives state subsidies.

The region is relatively underserved in terms of physicians and hospital facilities. In all major specialties, except perhaps general surgery, there is an abundance of clinical work to be done and prior to the school's arrival there were a number of subspecialty areas not represented. All the hospitals associated with the medical school maintain a high census and are financially solvent. Prior to the founding of the medical school there was limited educational experience in the community. The four community hospitals which had graduate medical education programs all became associated with the new medical school. At that time the programs were in decline and positions were filled almost entirely by FMGs.

In this context the medical school has had the opportunity to serve several important functions in the community in addition to the usual function of education of undergraduate medical students and the development of new knowledge in the health sciences. Recruitment of faculty in specialty and subspecialty areas enhances the medical care in the community and does not compete with established medical practice. One of the important problems for the school which remains is the availability of qualified full-time and volunteer faculty to teach on all levels of education. The growth and development of training in graduate as well as undergraduate medical education produces manpower for the region. Since the medical school has begun there are more than three times as many residency positions and in many areas there has been a significant upturn in the quality of applicants.

In spite of good relationships among physician groups

and open staffs and high census in the hospitals, there is considerable competition among the community hospitals for the development of the most advanced medical technology. This competition has been healthy for development, but runs the risk of costly duplication of facilities. The hospitals and the county medical society were all supportive of the development of the school in the community. Although attempts have been made to develop a regional approach to the provision of health services, few of these have borne fruit so far. Mechanisms such as inter-institutional councils and liaison committees have been established by the school but these have not yet been fully utilized.

The state government has taken initiative in the development of primary care physicians by mandating the creation of family medicine departments in the medical schools and subsidizing their development. Medical school C and a number of the community hospitals believe in the concept and already had programs so they have benefited substantially from the subsidy. As in the more specialized service areas the hospitals are competitive in their establishment of family medicine residencies. Three programs are continuing (C1, C4, C5), another is being phased out but with plans to be reinstated (C6), and two are being planned (C3, C7). A new chairman in the school's department has an important role to coordinate efforts and to maintain the quality of programs. By his authority to establish "affiliations" to programs the weight given to this relationship by the accreditation committees, he can have substantial influence on the number and character of programs.

The school was originally planned to enroll 150 in each class of a three-year curriculum. At the time of the study there were 64 in the clinical year, 80 and 96 in the first two years, and 112 in the next entering class. This continued growth has produced a growing need for clinical facilities and other resources to carry out the program. With the community hospitals as a supplement, however, bed capacity is not as limiting a factor as is the quantity and quality of residents and faculty available.

The Medical Center

The medical school faculty are temporarily utilizing the former 169-bed county hospital (C1) as a clinical base

of operation while a new 294-bed university hospital is being constructed. The home-base facilities are intended to house many highly specialized tertiary services, but under any circumstance it will not offer the full volume and range of experiences either primary, secondary, or tertiary necessary for a complete educational program.

The state mental hospital (C2) which is located in the immediate vicinity of the medical school and county hospitals, is the home of the department of psychiatry. The 986 beds are mostly for custodial care and many are being phased out as patients are shifted to out-patient settings. The hospital is administered from the state department for mental health and has its own separate medical director. It has been aided greatly in the development of its service by the presence of the Department of Psychiatry.

Affiliated Hospitals

In all, there are five privately-owned community hospitals which are affiliated with the medical school. Two of these have their only association to the school in family medicine. Hospital C7 is starting to program with the assistance of the medical school department while C6 is discontinuing its program voluntarily and hopes to have it reinstated with the assistance of the school or jointly with another hospital (C3). C6 also has special capability in rheumatology and would like to develop medical education in this area with the assistance of the medical school. The other three hospitals are the major affiliates of the medical school. In varying degrees all have a history of medical education and provision of tertiary care services for the community. These hospitals collectively provide the majority of the educational experience in the region.

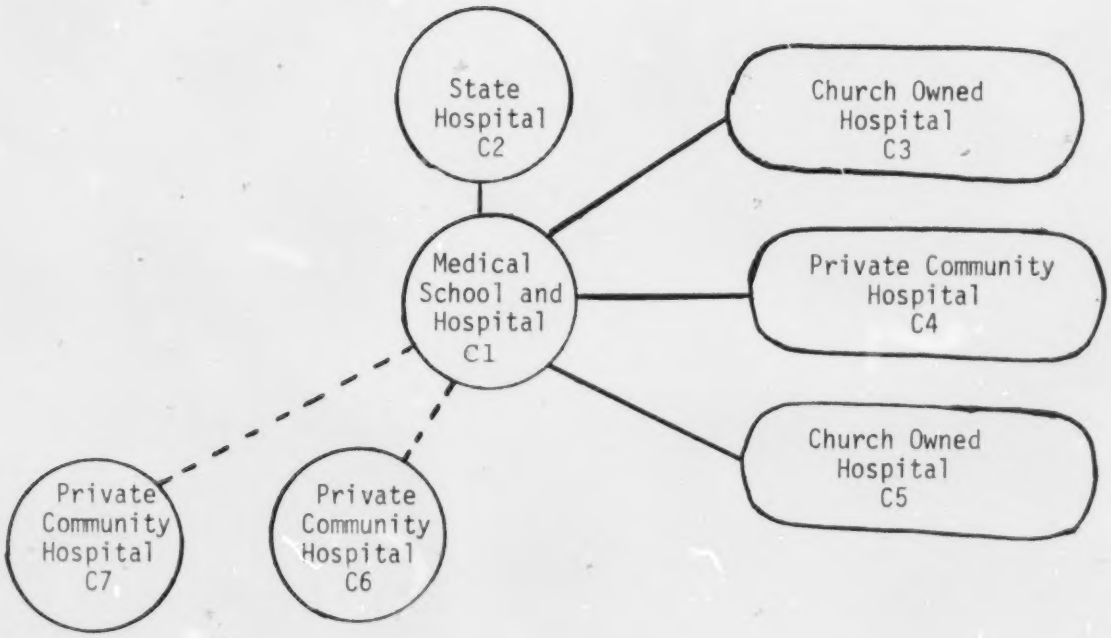
Hospital C3 is a 629 bed institution located in the inner city about 10 miles from the medical center. It is one of the two major competitive hospitals in the area (C4 is the other) for development of tertiary care services and education programs. The hospital has highly developed specialization in some areas, such as plastic surgery, and is protective of its distinctive image in the community. In a number of areas the hospital maintains full time salaried physicians who may or may not be associated with the education program. Nevertheless, in association with the school there has

been recruitment of academic physicians to the staff beneficial to the development of excellence in the hospital (e.g., nephrology). Association with the medical school is maintained through the director of medical education and the departmental faculty coordinators. The coordinators are not service chiefs but have been jointly recruited by the hospital and medical school.

Hospital C4 is a well-endowed suburban 522-bed institution which provides primary, secondary and tertiary services. The hospital is associated with the school in all major specialty areas except psychiatry and maintains its own family medicine and anesthesia (this one is becoming integrated) training programs. As with C3, this hospital has been assisted in development of tertiary services such as neonatology and it hires hospital-based physicians to provide specialty coverage. Although not yet a problem, a complication arises here and in other hospitals in the payment of hospital-based physicians who are on a higher scale than their faculty counterparts. Further complications result from the hospital-based faculty's participation in the school's practice plan. Coordination with the school is via departmental channels and is particularly close in medicine and pediatrics, but there is no intrahospital coordination of programs.

Hospital C5 is a 350-bed institution located in the inner city. The hospital has less developed educational resources than either C3 or C4 and has established close ties with the school to develop these resources and new specialized skills. The school's neuro-science department is establishing its clinical base at the hospital. In addition, there are integrated residencies and medical students in pediatrics, surgery and OB/Gyn and residents only in internal medicine, as well as the hospital-sponsored programs in family medicine and pathology. The program is coordinated by a director of medical education and department faculty chosen from the hospital's staff.

DIAGRAM OF NETWORK C



Key

_____ Institutional Relationship

----- Departmental Relationship

40

4. NARRATIVE DESCRIPTION OF MEDICAL EDUCATION NETWORK D

Medical education Network D is primarily composed of a tightly knit group of scientific and specialty care oriented institutions. The medical school is one of eight schools in a large metropolitan area. It serves as a referral center for the area and has a national orientation in the production of scientific health manpower.

Of the eight medical centers in the area all but one are private, but all are subject to metropolitan planning and the influences of state regulation. The schools themselves have formed an association for communication and, where possible, development of common policies. With respect to hospital affiliations each school has agreed to refrain from negotiating for relationships where another school has had a prior agreement. For this and other reasons the schools have established fairly well-defined geographic territories. In recent years, the expansion of affiliation networks have been informally regulated by the association of schools. At the same time, within the area, restraint produced by other schools have had effects at the departmental level in one major instance.

The medical school has established an organic union with the principal teaching hospital. The 1085-bed private hospital provides an ample clinical base for the school's 102 students per class, but affiliations are believed to be important for specialized need to complement the characteristics of the home base. Actually, the existence of two specialized hospitals in the immediate vicinity has made duplications unnecessary for educational purposes, and virtually impossible for competitive reasons.

The principal hospital (D1) has had a relationship to the medical school dating many years. The two occupy the same facility, all staff have faculty appointments and there is a joint medical center board and administration in addition to the separate boards and administration of the separate organizations. All affiliation agreements with the medical school and the hospital are made jointly with both institutions.

Within the geographic area of the medical center there are two internationally known categorical hospitals (D2 and D3) which provide quality programs which complement the school's programs in their specialty areas.

Hospital D2 is a private 449-bed cancer hospital across the street which has a longstanding relationship to the medical school. The original agreement specifies that the dean of the medical school, who is on the board of directors, approve all professional appointments. Associated with this hospital under a joint board is a separately administered cancer research center. This highly endowed component of the organization does not engage directly in clinical activity but is an important resource for research and has a formal relationship directly with the graduate school of the university. The hospital has its own, "affiliated" residents who specialize in treatment of neoplastic deseases, but it is dependent on the resources of the principal hospital (D1) and another affiliated hospital (D4) to get the general training necessary for board approval of the programs. The medical school and other affiliates rotate residents especially in the department of medicine to cover the services. There is no transfer of funds between the hospital and the school or other hospitals, but there are intellectual transfers that occur on an individual personal basis.

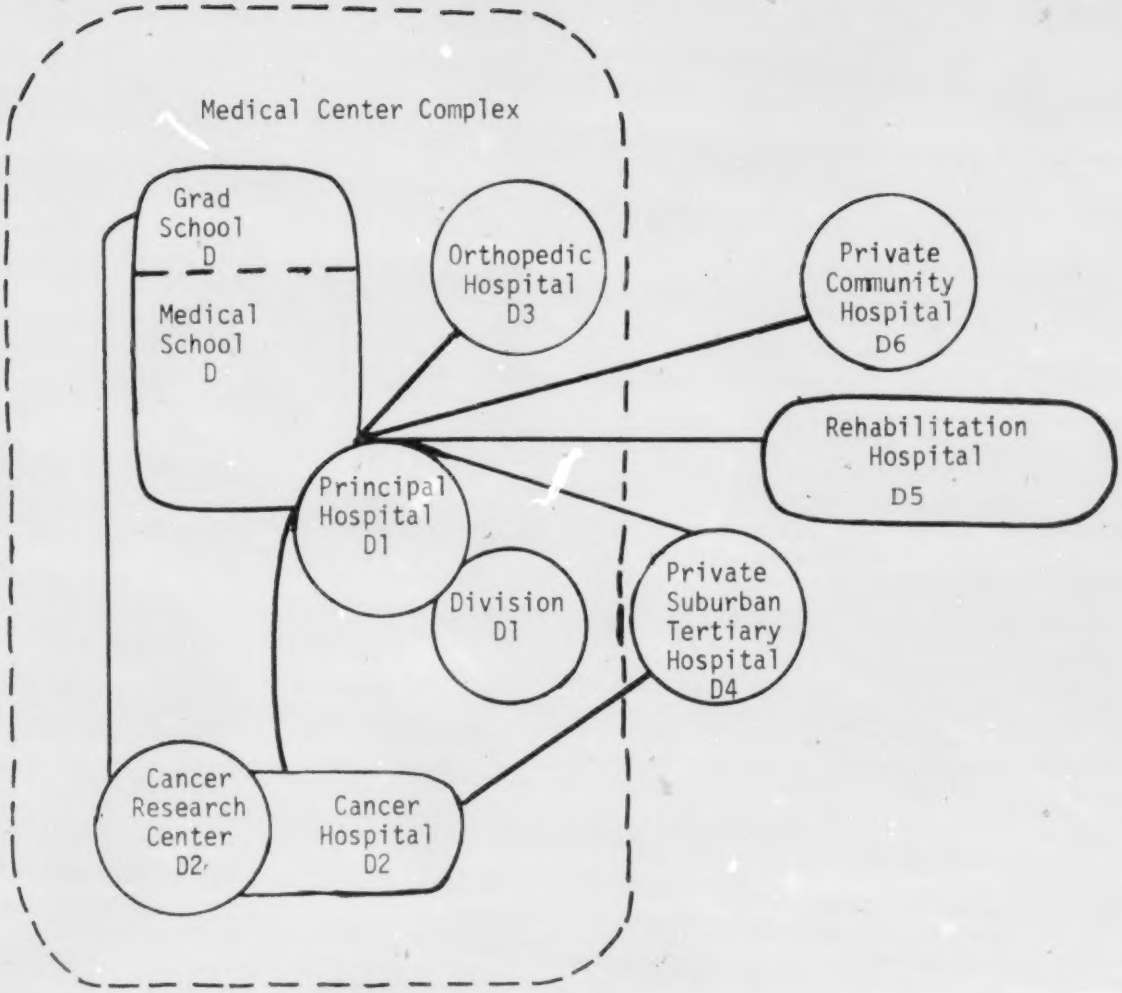
Hospital D3 is a 200-bed institution located across the street from the principal hospital. The hospital specializes in treatment of bone and joint disease and is the clinical base for the school's division of rheumatology in the department of surgery. The hospital is administratively independent but closely integrated to the medical center in all aspects of teaching research and patient care. All staff are on the faculty and the hospital operates exclusive services in the areas of specialty among the medical center hospitals (D1, D2, D3) and contracts for specific services such as pathology and pediatrics from the principal hospital. It operates the major hemophilia program for all hospitals in the complex.

Hospital D4 is a 464-bed community-based tertiary hospital that is located in a suburban area about 20 miles from the medical center. The hospital was developed

by a board of directors from the relatively affluent community with the acceptance of the concept that to achieve quality care it would be necessary to become a teaching hospital. The close association which subsequently developed with the medical school has assisted in the realization of this objective. The hospital has developed separate "affiliated" residency training and full time coverage in broad specialty areas to the point where the type of services of the offspring are potentially competing with the parent. The distance from the medical school limits direct competition and the difference in demographic patterns provides complementary training experiences for medical students. Close association is maintained through overlapping appointments (90% of the staff have faculty rank), joint appointments of service chiefs, and an associate dean who serves as overall director of medical education.

There are two other affiliated institutions and a longterm psychiatric division of the principal hospital located in close proximity to each other in another suburban area. Hospital D5 is a 150-bed private rehabilitation hospital with a close but limited relationship to the school. The dean is on the board of directors and an associate dean is the chief executive officer, but there is little actual teaching activity. Hospital D6 is a private community hospital with no previous educational experience that had just signed an affiliation agreement with the medical school at the time of study. The intention in this setting is to provide general medical training for residents going into specialties such as psychiatry and anesthesia.

DIAGRAM OF NETWORK D



5. NARRATIVE DESCRIPTION OF MEDICAL EDUCATION NETWORK E

Background and Context

Educational Network E is located in a medium-sized city (population about 900,000) which serves as a regional agricultural and industrial center for the surrounding two state area.

The medical school is the oldest of two medical schools in the state and has graduated sixty percent of the physicians currently practicing in the state. The school has recently become state affiliated based on the concept that it will serve the medical manpower and service needs for the western half of the state. This has resulted in increasing outreach activity on the part of the school and connection to an AHEC in a remote area of the state.

Traditionally, the medical school has been supported by the city government, through the city university and the city hospital, and private resources. The school has a history of being under-funded, and has been dependent on local hospitals for a clinical base. The city hospital served as the university hospital, being completely staffed by university appointees, but it was a) limited in size; b) limited in patient type; c) limited in money. In the past the administration of the school has relied on the departments to develop their own clinical resources.

In recent years, especially since the state has become involved, the recruitment of several strong new department chairmen as well as a new dean have revitalized the school's programs.

In addition, the state has assisted in the construction of a new medical center campus and plans are proceeding for the construction of a university hospital concurrently with the closing of the old city hospital facility. This transfer of ownership and responsibility to the state is producing an interim period which is critical in terms of relationships to other hospitals. The anticipation of such developments has had a large impact on the current relationships among affiliated hospitals in the medical center and the changes will probably continue to be of major concern for some time.

In response to federal and state initiatives, the medical school has increased its class size from 100 to 138. The impetus to find places for clinical experience for students and the general revitalization of the school have resulted in greater development of community resources for education. At the same time of this study, only one hospital in the community had not fully integrated all of its graduate medical education with the medical school, and that hospital has plans to either affiliate or phase out its independent programs.

The Medical Center and Affiliated Hospitals

The home base hospital for the medical school has been the city hospital. It is the only closed staff hospital in the city in that all its staff are full-time medical school faculty. By agreement with the city, the faculty provides care to indigent patients without charge. This has been an important role which the medical school has taken in the community. The hospital supports 165 of 385 resident positions in medical school programs. An important development is that the university has recently assumed complete responsibility for all residents with the city hospital transferring authority previously held. At present, city hospital is the major source of clinical experience for undergraduate medical students. The school is in control of professional activities. The chiefs of service are all department chairmen of the school and the chief of staff (associate dean) is appointed by the school. In addition, 4 of 10 board members are university representatives. The hospital is administered by the city board of health which has been reluctant to maintain the facility or purchase new equipment with the imminent construction of the state-funded university hospital.

A closely affiliated V.A. hospital (E2) located away from the medical center on the outside of town is an important supplement to the home base. This is a 400-bed general medical and surgical hospital with a typical Dean's committee structure. All departments in the hospital are integrated into the school's residency programs with the major departments, medicine, surgery and psychiatry, all comprising an important part of the respective school's departmental activity.

Because the city hospital as it existed did not provide the quality (or flexibility) of services needed for a modern expanded education, the school has depended on private community hospitals as a base for the practice of its faculty. The school has attracted four private hospitals to move to the downtown location of the medical center. One of these has not become involved in the educational activities of the school and two others have merged under a single management but retain separate identities.

The merged hospital unit (E3) is composed of an adult division and a children's hospital. The children's hospital is the major base for the school's pediatric department and its chairman is chief of staff. The existence of this unit has led to a restriction on development (and support) of pediatric and children's services, including surgery in the new university hospital. There is also a vice chairman who manages internal medical affairs of the hospital. It is a strong viable unit with 100% census and is the only children's hospital in the state. The chairman of OB/Gyn department of the school makes the adult division of this hospital his base of operations and the department has benefited from a close relationship to pediatrics in the area of neonatology. The psychiatry department has had a longstanding relationship to the adult division (which dates prior to the merger and move of this hospital to the medical center) in which the chairman or his appointee is the chief of hospital service. It is the principal location for the practice of the chairman. Internal medicine has less involvement in education but is developing some specialized units in the hospital.

Another general hospital (E4) in the medical center has only a limited involvement in education programs in surgery and medicine, but has been an important resource in the medical center because of the leadership and vision provided in a large measure--but not exclusively--by the board of directors. A number of highly specialized service facilities such as renal dialysis and transplant and cardiac catheterization have been developed with the assistance of the recruitment ability of the school.

In addition to several other specialized units in the medical center which are owned by the medical school such as an eye clinic and radiation therapy center, there is a small rehabilitation institute (E7) which participates with the school's department in the education program.

Outside the medical center there is one general hospital with significant educational activity, a number of specialized facilities with departmental relationships and a remote site AHEC to serve rural areas of the state.

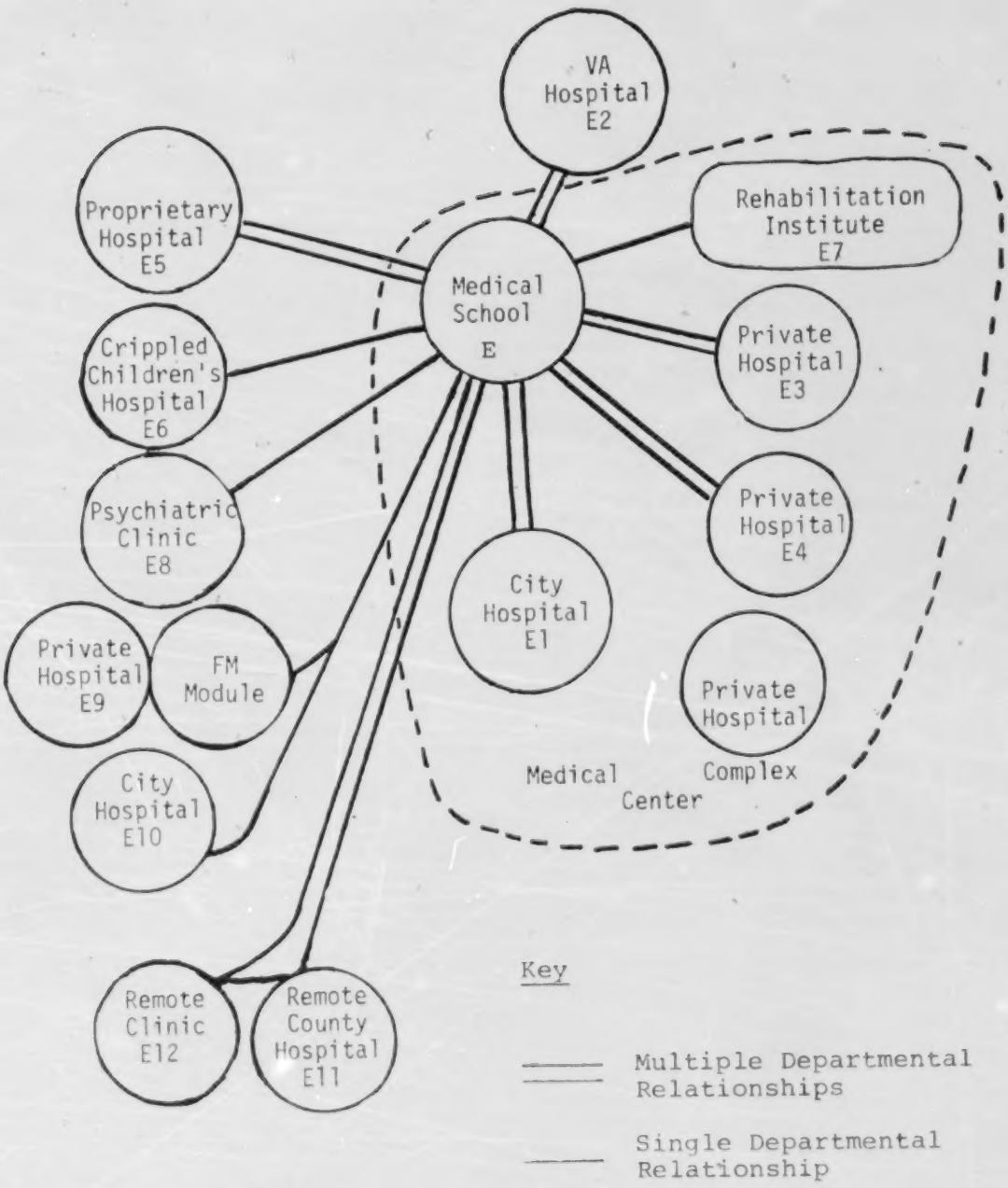
A proprietary hospital (E5) has pursued affiliations with the medical school in order to maintain some of its education programs. There has been a history of independent education in the hospital that predates the for-profit ownership, so the hospital management is yielding to some of the staff's wishes to continue some of the programs. Although graduate programs in pediatrics and OB/Gyn have been phased out because of the cost consideration, the internal medicine program is becoming affiliated, surgery has a significant relationship, and family medicine rotates residents and supplies a faculty member to the hospital. (Family medicine supports its education through outside sources while Medicine and Surgery are supported by the hospital.)

A small crippled children's hospital (E6) is part of the surgery department program in orthopedics and a child psychiatric clinic (E8) is an important part of the psychiatry department.

The family medicine department has a major portion of its clinical activity outside the medical center in units separate from the other departments. The model practice unit is located in rented space at hospital E9, (There is no other relationship to the hospital.) and a small city hospital (E12) is used for a portion of the in-hospital training.

A remote county hospital (E11) and group practice clinic (E12) is the basis of an AHEC in the region which is associated with the medical school. This has been an important training site for family medicine and surgery. Other departments have been involved in the rotation of students and residents on a limited basis.

DIAGRAM OF NETWORK E



6. NARRATIVE DESCRIPTION OF MEDICAL EDUCATION NETWORK F

Medical education Network F covers a vast sparsely populated four state area. The medical school is located in a medium-sized city, population about 1.5 million, which serves as a commercial center for the entire area. There are several other regional population centers in the state and neighboring states which are served by the school. The commitment of the school to serve the manpower and service needs of such a large geographic area is an important driving force for the establishment of an extended network of affiliated hospitals and clinics.

The medical school is a 30-year-old component of the state university. There is additional support and involvement from the three neighboring states through a special program to provide remote site education in those states. The school is nationally known for its excellence in biomedical research and for its commitment to innovative programs directed toward interesting students in careers in primary care and service in geographically remote sites.

The school is one of six whose dean reports to the vice president for health affairs in the university. Also reporting to this official is the executive director of hospitals who is responsible for operation of the university hospital and the university-managed county hospital. The medical school dean, particularly through an associate dean with designated responsibility in this area, takes an active role in shaping the institution's affiliation relationships and agreements, although all major commitments require the prior approval of the university through the office of the vice president. Within this context, the department chairmen have major responsibility for developing clinical resources in affiliation hospitals. The establishment of outreach and primary care activities have been nurtured by the dean's office. An extensive network has been developed by the school through commitment, determined effort and with the help of state funding and outside grants.

Original plans for the school called for the development of a 1100-bed university hospital, but for the first 15 years none was built and for the past 15 years, the hospital has been limited to 288 beds. There has always

been a great reliance on outside resources for the operation of clinical education programs. Currently about one quarter of the 450 resident positions in medical school programs are funded from university sources and 53 percent of clerkships are carried out in the university-managed hospitals.

In 1974 the medical student enrollment expanded from 125 to 175 per year so that there is a need to expand the facilities available to provide clinical experience. This expansion is being accomplished primarily by utilizing more extensively affiliated institutions already participating in graduate medical education or undergraduate medical education programs, although there has been substantial attention to developing more fully the capacity of these institutions. In addition, there have been continuing efforts to expand primary care and remote site educational opportunities for students.

Within the large network of affiliations there is a core group of hospitals which support the bulk of the teaching load, including the university hospital (F1), the university-managed county hospital (F2), a Veterans Hospital (F3), a Public Health Service Hospital (F4), and a private children's hospital (F5). In addition, there are three private community hospitals (F6, F7, F8) and a military hospital (F9) that have both affiliated and integrated programs and provide elective clerkships. These are the institutions that supplement the core group and provide additional capacity to handle a larger enrollment.

Beyond these major affiliations there are a large number of hospitals and clinics in the same city as the medical center, in neighboring cities and towns in the immediate region of the medical center, and in population centers in the rural areas of the four state area. Each of these have a small amount of activity in terms of numbers of students or residents; many of these have variable subscription to their educational offerings; but individually and as a group they are of importance to the school's program and illustrate the school's regional perspective and commitment.

The following will describe the network of affiliations by describing the contribution of institutions in each of the above broad areas.

The Medical Center

The home-base hospitals include the 288-bed university hospital (F1) and the 270-bed university-managed county hospital (F2). These two hospitals have become, by design, functionally differentiated and contribute both to the school's programs and the needs of the community and region in ways which are complementary rather than competing. The university hospital is the home-base for all but one department chairman and is the location for much of the tertiary care activity of the faculty. It is a principal referral hospital for the state. The county hospital serves as a burn and trauma center and has special emphasis on acute psychotic patients, and it has limited services in pediatrics and obstetrics. The staff are faculty members and the medical director is associate dean. The county hospital serves the indigent population of the city and county and has more general treatment than the university hospital.

Major Affiliations

The 313-bed Veterans hospital (F3) and the 211-bed Public Health Service hospital (F4) serve as important supplements to the home-base facilities. These provide more general treatment services and provide a volume of patient care which are important for physician training. Both institutions have a full range of integrated residency programs and substantial loads of student clerkships. In both hospitals, all or a substantial majority of the staff have faculty appointments. The threatened closure of the PHS hospital provided one motivation for the school to expand and develop its affiliations with private hospitals in the community.

A 165-bed private children's hospital (F5) is the base for the school pediatrics department, and is the only institution outside of the university hospital which serves as the department chairman's base of operations. Two years ago the school closed its pediatrics unit except for a clinic and two specialty units and moved to this well established tertiary hospital. Although points of tension still exist between the faculty and the community physicians and hospital-based physicians on the hospital staff, this hospital is a major resource for a significant part of the education program.

Hospitals F6 and F7 are privately owned and maintain their own housestaff programs in some specialties. Each of these has had long affiliation relationships and residents are rotated in specialty areas to provide a supplement to the experiences that can be provided in a single small to medium sized hospital. In addition, they have offered electives to medical students and have had significant subscription to the offerings. Hospital F8 became affiliated four years ago as a supplement for the department of medicine for both clerkship and integrated residency rotations. There is an affiliated family medicine residency program and elective clerkships in this specialty are provided. Because the residency in surgery is in danger of losing its accreditation, negotiations are underway to develop a medical school affiliation in this specialty. The three hospitals will provide a major portion of the clinical base for the expansion of the medical school class.

A military hospital (F9) in a neighboring city has a relationship similar to that of the private hospitals above with the substantial portion of graduate medical education in independent programs and offerings of electives (which are less subscribed to because of the distance). This hospital at present provides an important resource for required clerkships in OB/Gyn.

Other Affiliations

In the year of this study, all other affiliates accounted for about 10 percent of clerkships, mostly elective. These affiliates will be discussed collectively according to the region in which they are located.

In addition to eight of the major hospitals in the network, there are fifteen other institutions within the city with affiliation relationships to the medical school. All together these institutions account for 6.5 FYES clerkships and about an equivalent number of residency positions. The institutions provide general and specialty elective experiences for students in both ambulatory and inpatient settings. A prepaid group practice is the setting for clerkships in family medicine. Other affiliates with educational activity include both general hospitals and ambulatory clinics.

In the immediate region of the medical center (in neighboring communities less than 100 miles away) there are an additional 19 affiliated institutions which contribute 24 FYES clerkships to the school's program. Among these is the military hospital (F9) already mentioned. Most of the others have only limited participation in the undergraduate program but several have significant educational activity in limited areas. Activity in these situations is associated with the special interest and expertise of an individual or group to operate the program in that location. In one community there is an outpatient clinic (F24) and neighboring hospital which contribute 4.25 FYES clerkships in family medicine. Another suburban hospital (F10) has a significant (5.5 FYES) Emergency Room rotation. A state hospital has both residents and students in psychiatry, a Navy base takes pediatric clerks, and a general hospital has several anesthesiology residents.

In the eastern part of the state about 300 miles from the medical school there is a small city, population about 200,000 which serves as the major commercial center for a largely rural ranching and farming region. The city has several hospitals involved in educational activities which are related to the school's programs. Three of the major teaching hospitals (F13, F14, F15) have joined forces in a consortium (F12) which sponsors and supports a family medicine residency program affiliated with the medical school. This program is operated from a model group practice clinic (F16) which also trains undergraduate medical students, and utilizes the consortium hospitals for in-hospital portions of the training program. The program director is a faculty member of the school and participates in the network of 7 affiliated family medicine programs associated with the school.

The hospitals in this city both in and out of the consortium, have additional connections to the school's programs as well as several independent residency programs. There are residencies in medicine, anesthesia, pathology, and orthopedics from the medical school and clerkships in pediatrics, surgery and pathology. Because of the distance and similarity of experiences to programs in the vicinity of the school, the maintenance of the residents' interest in rotating to these hospitals as part of an integrated program is difficult to accomplish. This may result in a restructuring of present arrangements, substituting school support for affiliated programs for the integrated ones.

Coordination of the school's activity in this city is handled by a physician recruited from the community and supported half from funds in the medical school. This person has been a key contributor to the success of programs conducted in this remote setting.

In the home state, there are seven health clinics and small community hospitals that provide experience in rural medicine. F20, F21, and F22 are three such clinics which have had a significant amount of actual participation in the program. The others have had limited and variable participation in residencies and clerkships. F20 is a rural group practice of 5 physicians which takes medical students on a regular basis and occasionally residents for a short rotation. The clinic is located adjacent to a 40-bed hospital (also affiliated) which is an integral part of the experience as is the work in the community. F21 is an outpatient clinic that is developing an affiliated family medicine residency in conjunction with the medical school and the hospital consortium (F12). F22 is a rural clinic that provides elective clerkship and residency rotations in medicine and surgery.

In the bordering state there are six affiliated community hospitals, three (F11, F19, F25) which have educational activity. In addition to family medicine, the hospitals have a significant amount of activity on an undergraduate and graduate level in OB/Gyn and more limited activity in pediatrics.

Another state has eight affiliated community hospitals located in four different towns. Four of these (one in each town) have participated in the undergraduate program providing experience for 6.25 FYES all together. F18, a 40-bed family medical center, is an example of the involvement of these remote site affiliations.

Finally, a fourth state has four affiliated institutions which participate in the education programs for psychiatry, family medicine and internal medicine. F23 is an outpatient psychiatric facility used for clerkships and occasional residents from the psychiatry department of the medical school.

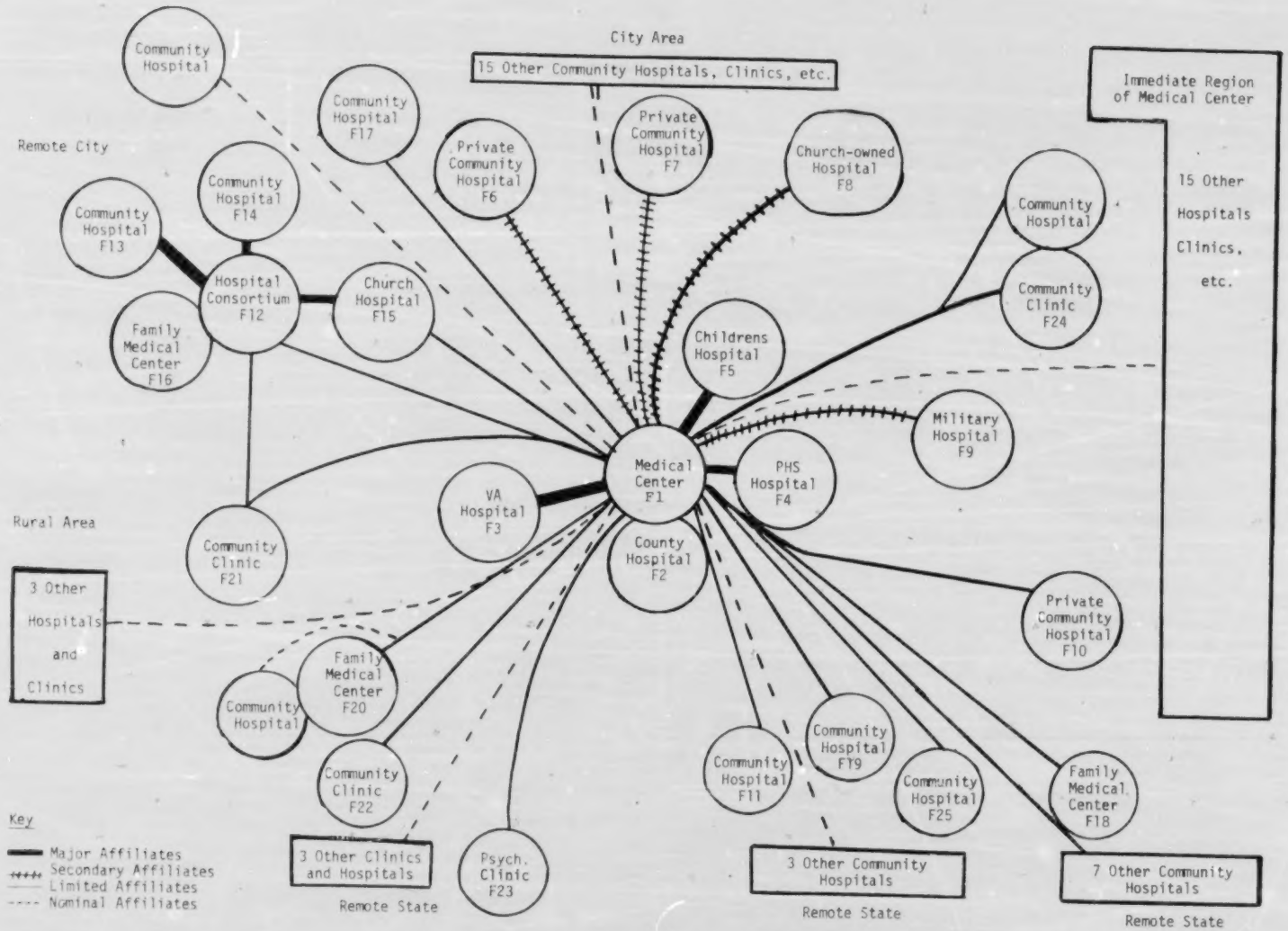


DIAGRAM OF NETWORK F

B. Analysis of Patterns of Educational Activity in Six Medical Education Networks

Distribution and Control of Resources and Programs in Educational Networks

A portrayal of the pattern of distribution of educational loads among clinical facilities associated with the medical schools has been developed by comparing the extent of involvement in undergraduate medical education (# students) and graduate medical education (# residents) in various categories of affiliated institutions to the resources in each category characterized by the number of beds in those institutions. The number of beds was chosen as the best single indicator of the set of resources available in a hospital for education and patient care purposes. This measure stands for more than the size of the "hotel facilities"; it also provides a rough idea of the size of laboratory facilities, support staff and equipment.

Institutions in each network are categorized on the basis of the organization of graduate medical education in that setting. Institutions where all graduate medical education programs are integrated with the medical school are distinguished from those that have both integrated and non-integrated programs, and from those institutions with no graduate medical education programs sponsored by the medical school; the latter programs may receive assistance from the medical school. In addition one medical school has affiliations with a number of institutions, mostly in remote areas, in which there are no graduate medical education programs. The organizational control of graduate medical education programs has been used to define the categories because this is considered to be a critical factor in most affiliation relationships and provides a rough measure of the influence of the school in the hospital. Residents are an important resource for schools (for teaching) and hospitals (for patient care) and they are themselves students.

Based on the data accompanying the narrative descriptions of educational networks, the distributions of programs and resources in the six networks are displayed in Table 1. The data on Table 1 are graphically illustrated for each network in Figures 1-8.

In the comparison of networks in Table 1 and Figures 1-8 it is notable that only one of the six networks has as much as 1/2 the beds in institutions with totally integrated graduate medical education and only two have 1/2 of the residents in the fully integrated institutions, while five of the six have more than 1/2 of students in the integrated settings. This difference reflects the greater responsibility and control of the medical school in undergraduate medical education and the school's less substantial organizational control or influence over graduate medical education. Stated another way, the medical school tends to educate undergraduate students where its influence on graduate programs is greatest.

In three networks (A,C,D) the majority of the residents are in institutions with both school and hospital-sponsored graduate medical education programs. In these and one other network (F) the majority of beds are in mixed institutions.

Examination of each network individually reveals that there are more differences between networks than similarities among them. Medical schools B and D are private, while the others are public. Schools A and C are developing medical schools while the others are more established. No strong pattern is suggested on either of these dimensions. Differences are illustrated by the following examples. Network A is heavily reliant on hospitals other than those closely integrated. Network B makes the greatest use of institutions with non-affiliated programs. Network C is limited in its needs by a 3-year curriculum and the fewest number of students in the clinical years. Network D has a large (1000 bed) principal hospital and a relatively small enrollment. Network E has almost all graduate medical education integrated with the school. Network F has a vast network but concentrates most activity in a few hospitals closely linked to the school.

Table 1

Distribution of Programs and Resources
in Six Medical Education Networks

Based on Resident Program Organization

	# Beds	# Residents	# Students
Network A Institutions	4958	550.5	96.2
Integrated	(12%)	(15%)	(13%)
Mixed	(61%)	(65%)	(81%)
Non School Sponsored	(27%)	(20%)	(6%)
Network B Institutions	4546	1004	317.85
Integrated	(23%)	(18%)	(50%)
Mixed	(40%)	(38%)	(34%)
Non School Sponsored	(37%)	(44%)	(16%)
Network C Institutions	[illegible]66	217	68
Integrated	(40%)	(38%)	(51%)
Mixed	(52%)	(60%)	(49%)
Non School Sponsored	(7%)	(2%)	0
Network D Institutions	2198	678	187.7
Integrated	(49%)	(41%)	(79%)
Mixed	(51%)	(59%)	(21%)
Network E Institutions	3135	373.5	244
Integrated	(82%)	(93%)	(96%)
Mixed	(17%)	(7%)	(4%)
Network F Institutions	4347	627	367.2
Integrated	(29%)	(54%)	(76%)
Mixed	(57%)	(43%)	(17%)
Non School Sponsored	0	(2%)	(1%)
No GME	(14%)	0	(6%)

Figure 1: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK A INSTITUTIONS

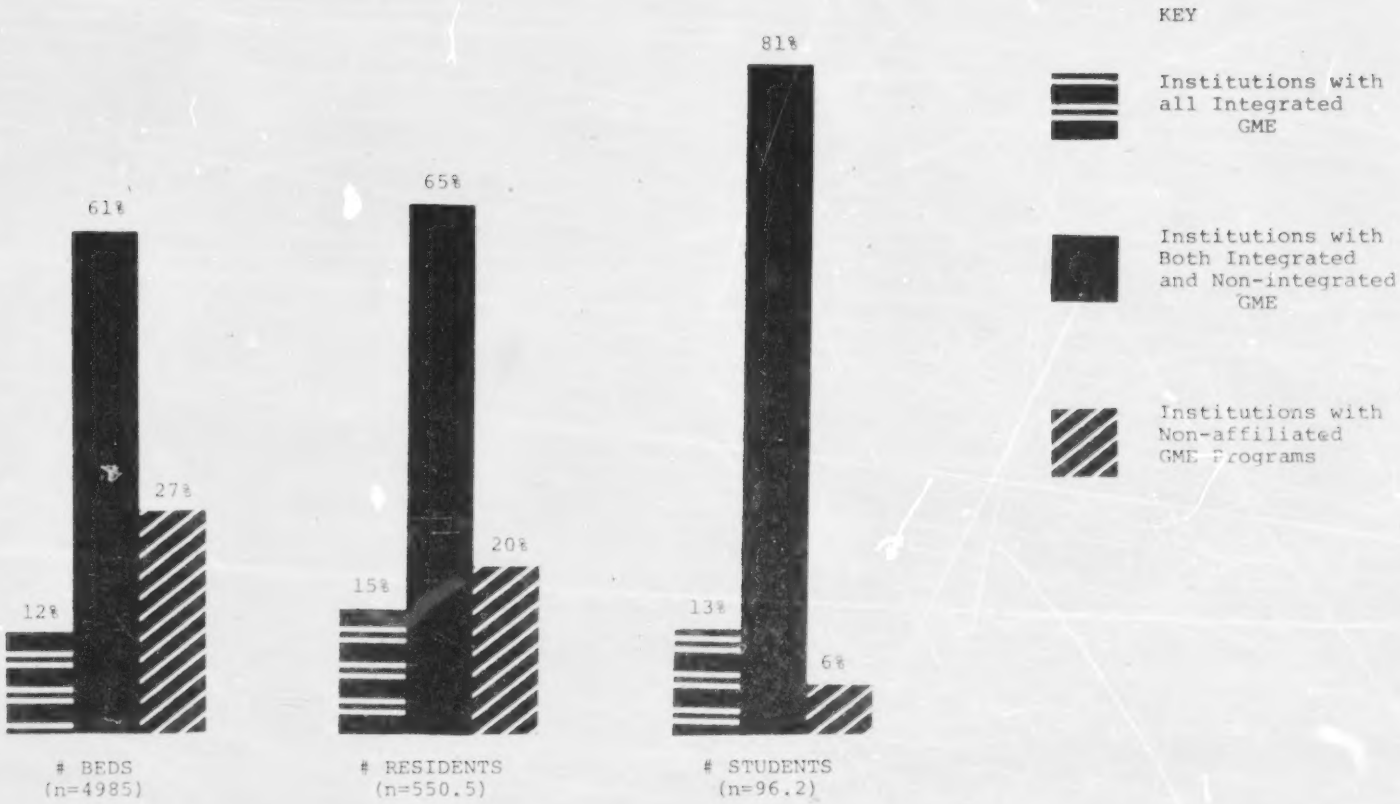
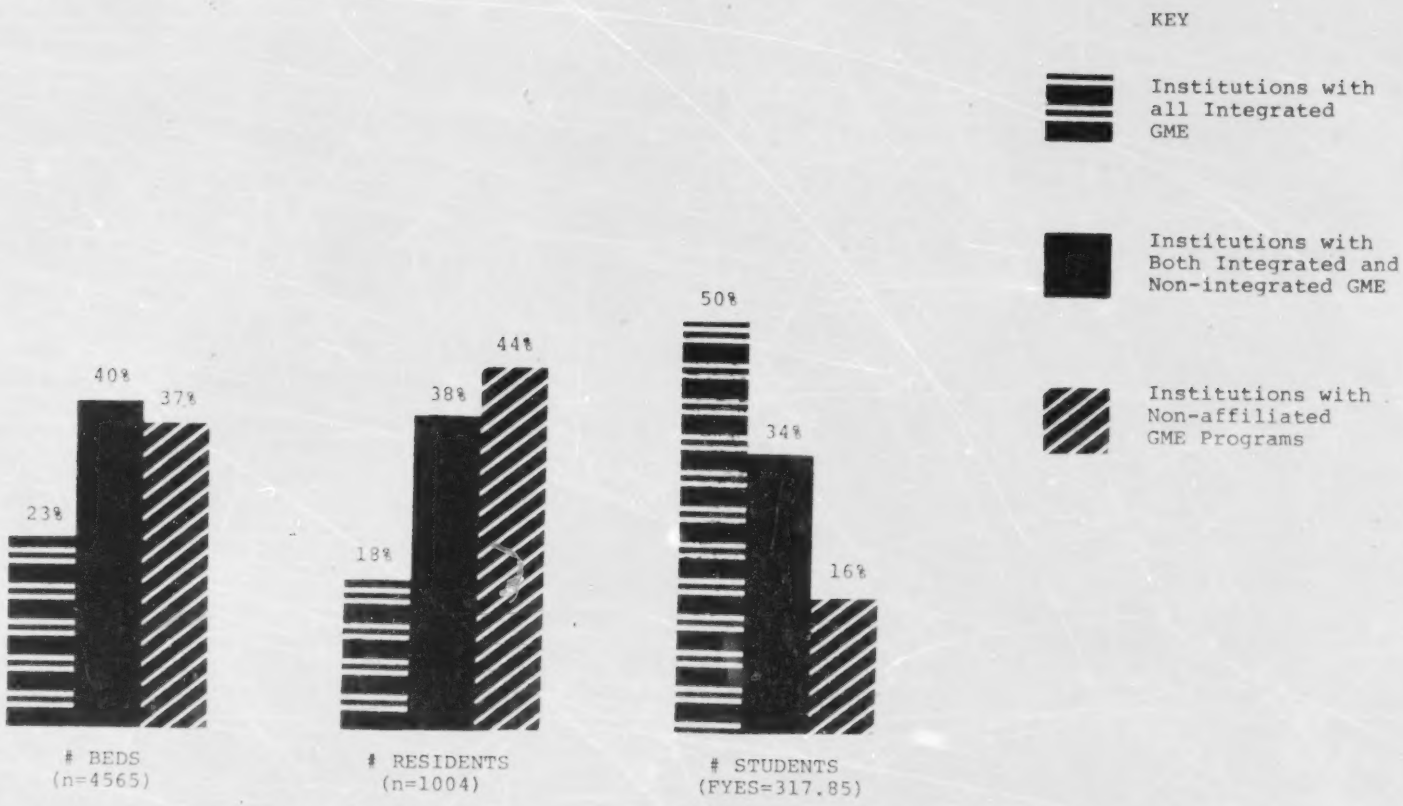
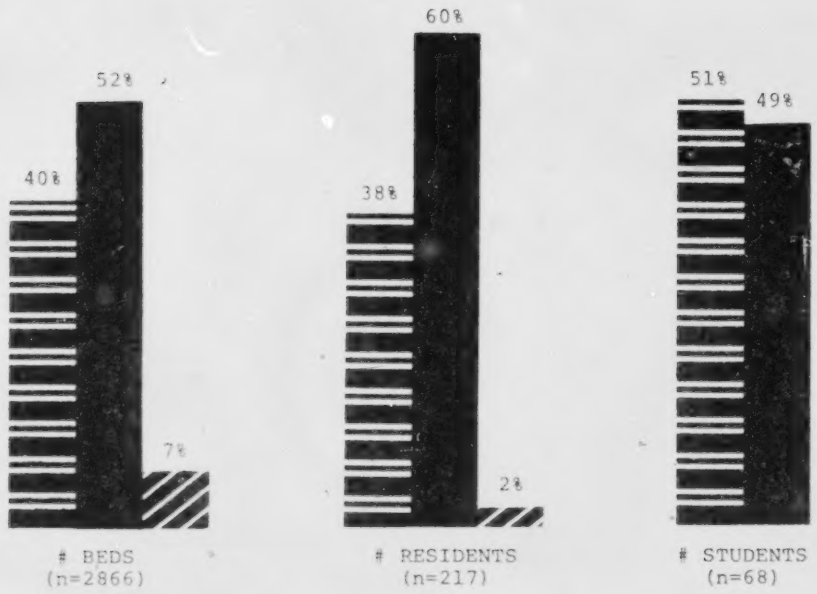


Figure 2: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK B INSTITUTIONS*



* Note: 5 institutions (B9, B11, B12, B13, B14) containing less than 4% of clerkships and 10% of school residents as well as 4825 beds have not been included in the calculations in this chart.

Figure 3: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK C INSTITUTIONS



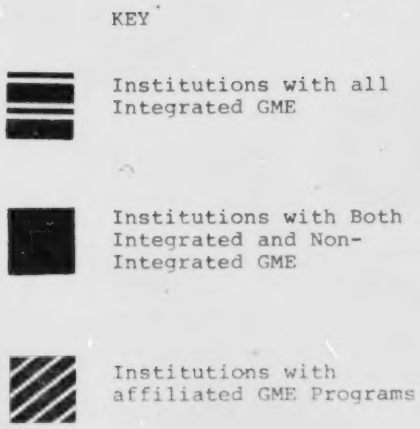


Figure 4: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK D INSTITUTIONS

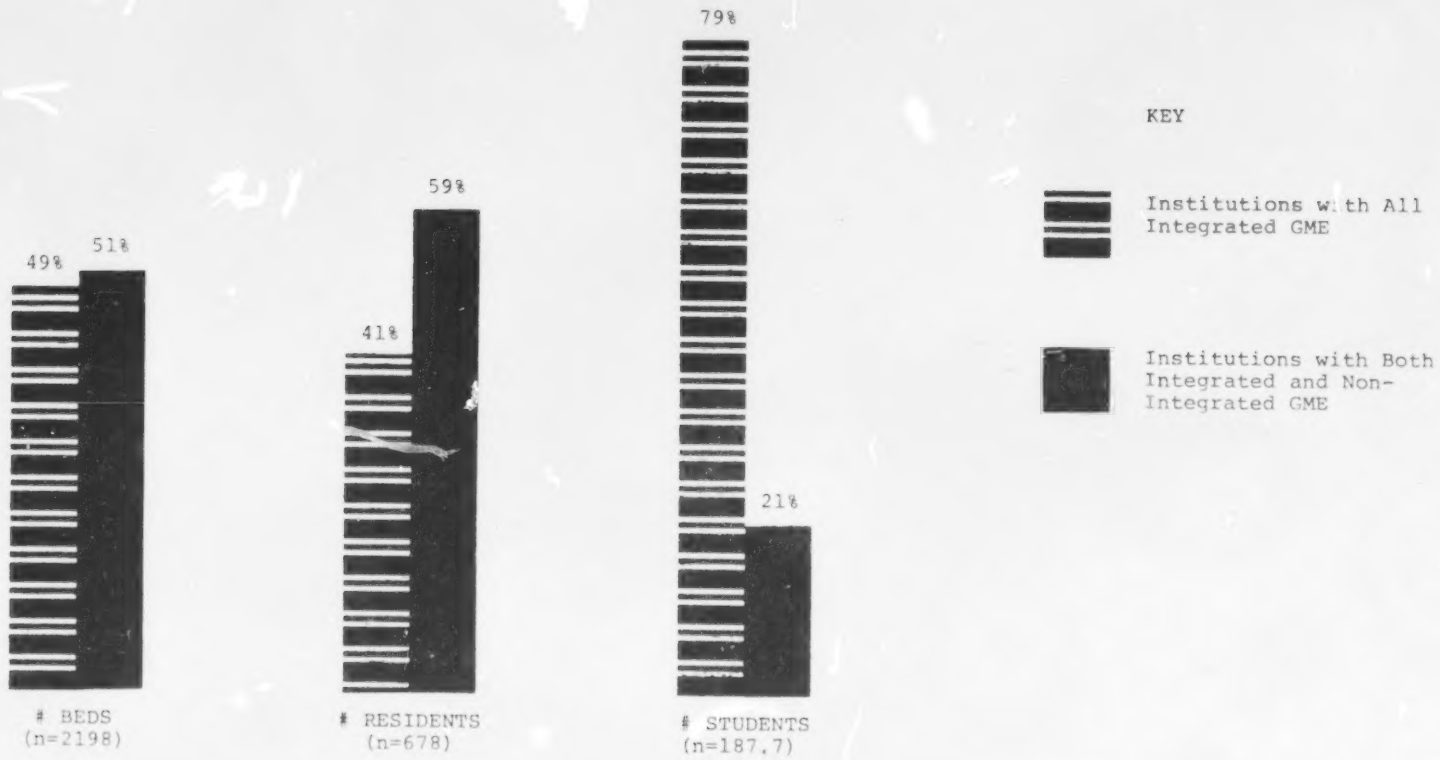


Figure 5: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK E INSTITUTIONS

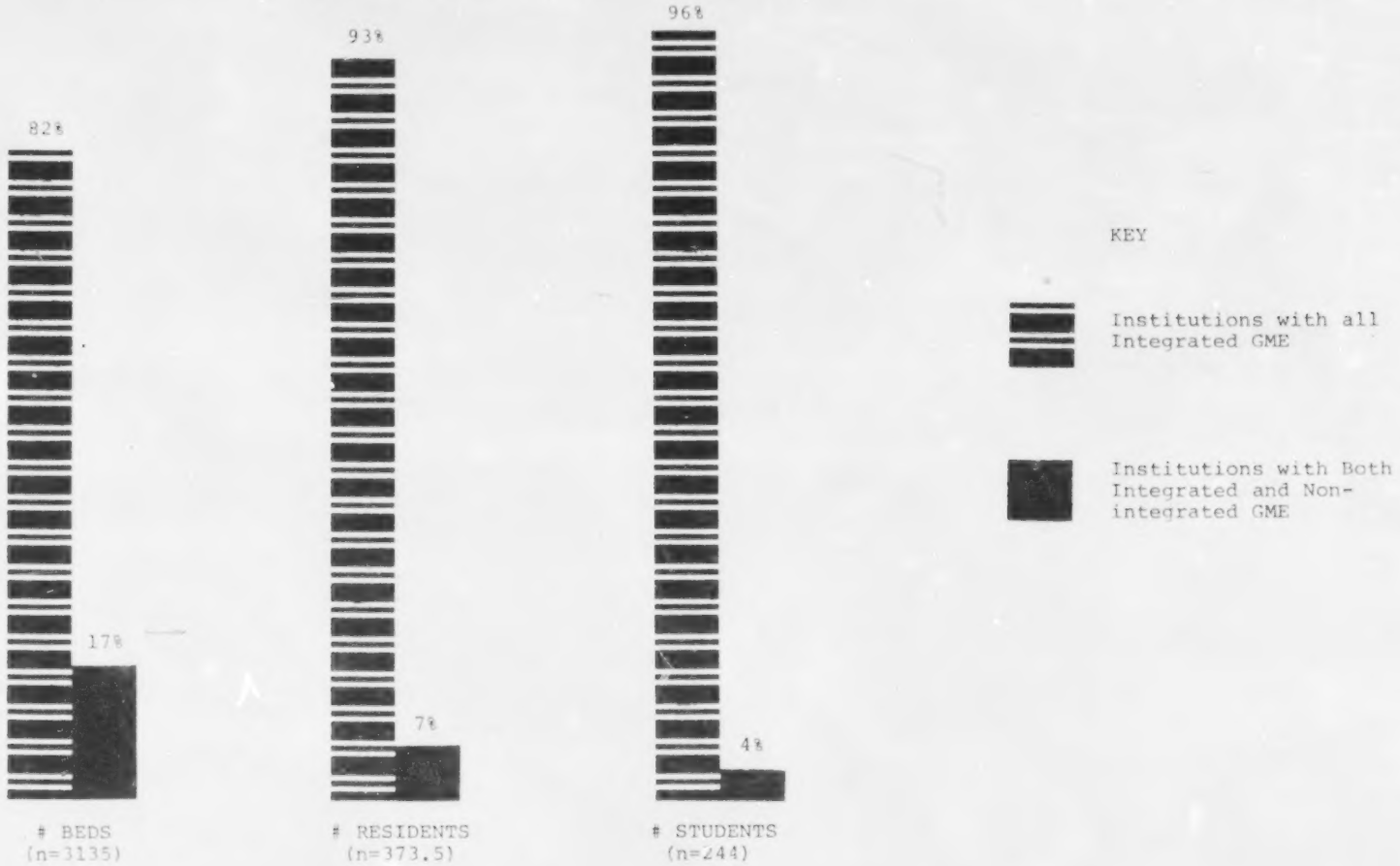
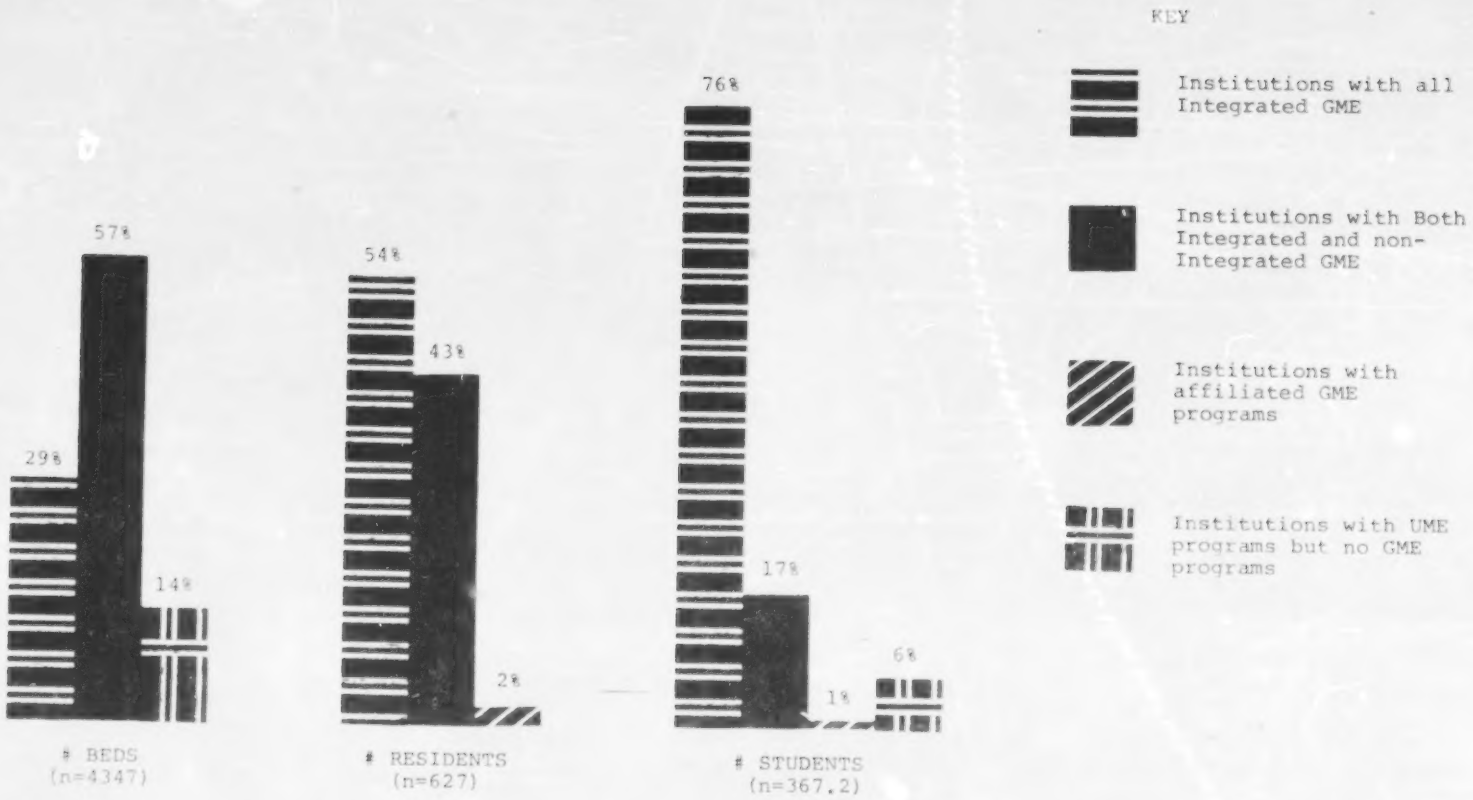


Figure 6: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK F INSTITUTIONS*



* Note: 49 institutions containing less than 4% of the students and 6% of school residents have not been included in the calculations in this chart.

Figure 7: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK F INSTITUTIONS IN METROPOLITAN AREA OF MEDICAL SCHOOL

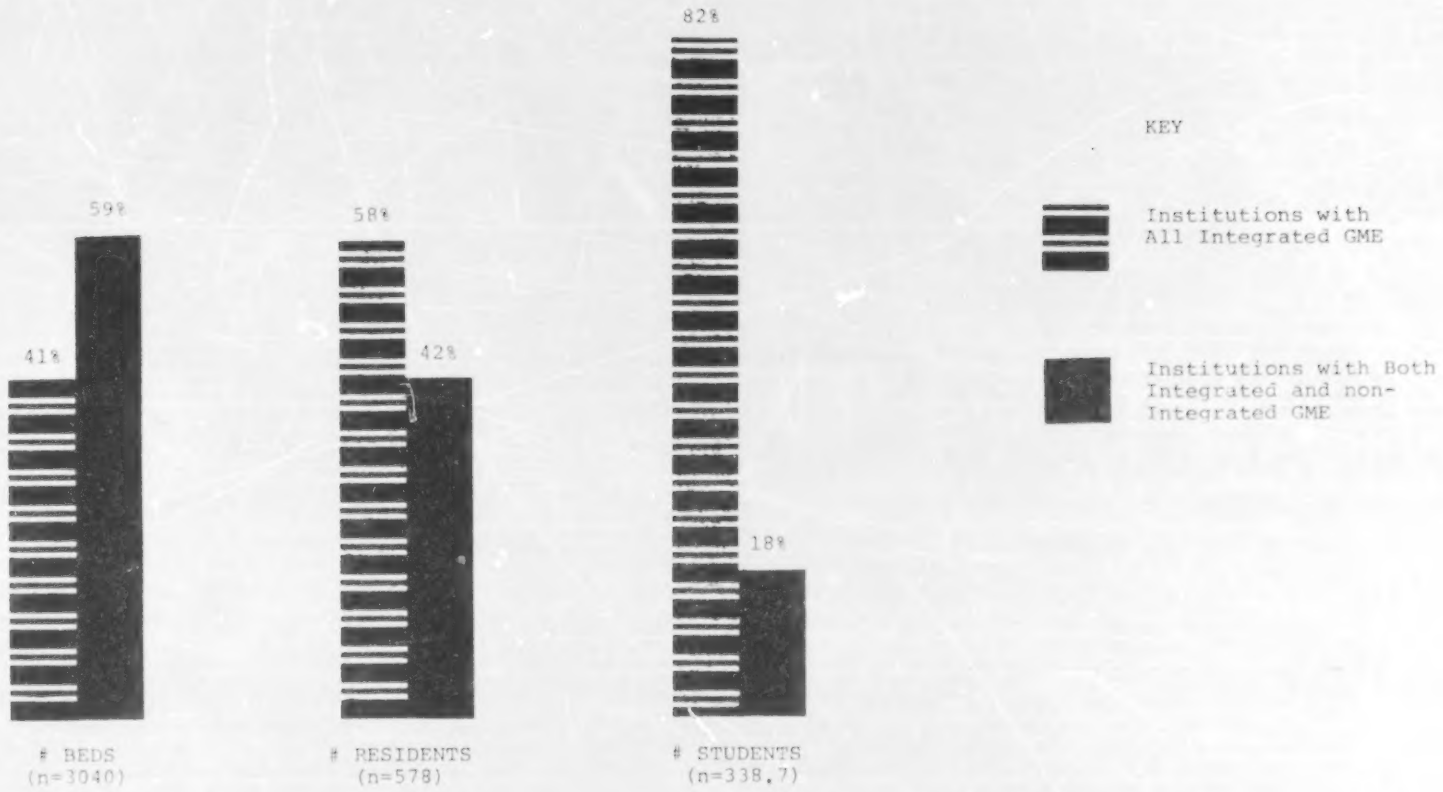
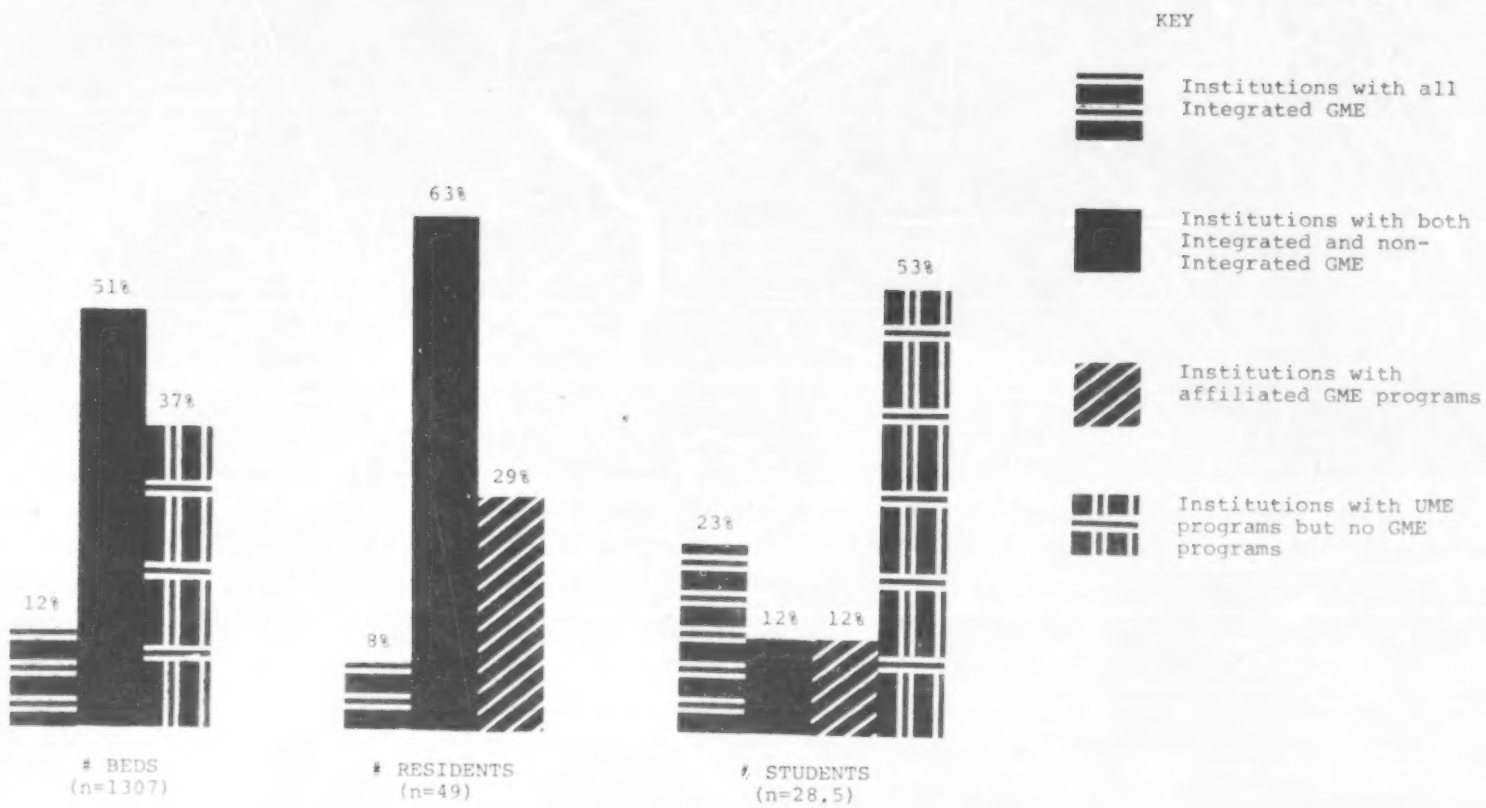


Figure 8: DISTRIBUTION OF PROGRAMS AND RESOURCES IN NETWORK F INSTITUTIONS GEOGRAPHICALLY REMOTE FROM MEDICAL SCHOOL



C. Intensity of Educational Effort in Affiliated Hospitals

Patterns of educational loads in affiliated hospitals are further examined in the scattergrams display (figures 9-15). These charts display the relative intensity of graduate and undergraduate medical education for each institution, indicated by the position of each point on the chart. The points are derived by dividing the number of FYES clerkships (representing the magnitude of undergraduate medical education involvement) and number of residents (representing the magnitude of graduate medical education involvement) in the total institution by the number of beds (representing the resources available to the institution). In this way the size of the institution is controlled, and comparisons of one point to another reflect the relative effort on the two dimensions of education. A point farther to the right on the plot indicates greater graduate medical education involvement and a point farther up indicates greater undergraduate medical education involvement. In addition, institutions are designated by their network identification. The letter indicates the network and the number corresponds to a hospital in the network. For example, the number 1 (A1, B1...) refers to the principal hospital in each network. Each institution is also designated as public or private by the symbols o and Δ respectively. Figure 9 is a combined chart for all major affiliates in the six networks where major affiliates are defined as having at least 5 FYES clerkships. Figures 10-15 (Appendix II) display all affiliates for each of the six networks separately.

Examination of figure 9 reveals that although there may be a large number of institutions with significant involvement in undergraduate medical education activity, only a fraction of those have very intense involvement. Further examination of those with more intense involvement reveals that the large majority of these are publicly-owned, or are the principal hospital of the medical school. Of 18 institutions beyond the .15 undergraduate medical education and .15 graduate medical education point on the chart only 3 are private non-university hospitals and 1 of those is the basis for a medical school department (F5 is a children's hospital that contains the school's pediatrics department). Out of 21 institutions inside the same points, only 4 are publicly-owned hospitals and 1 of those is privately operated.

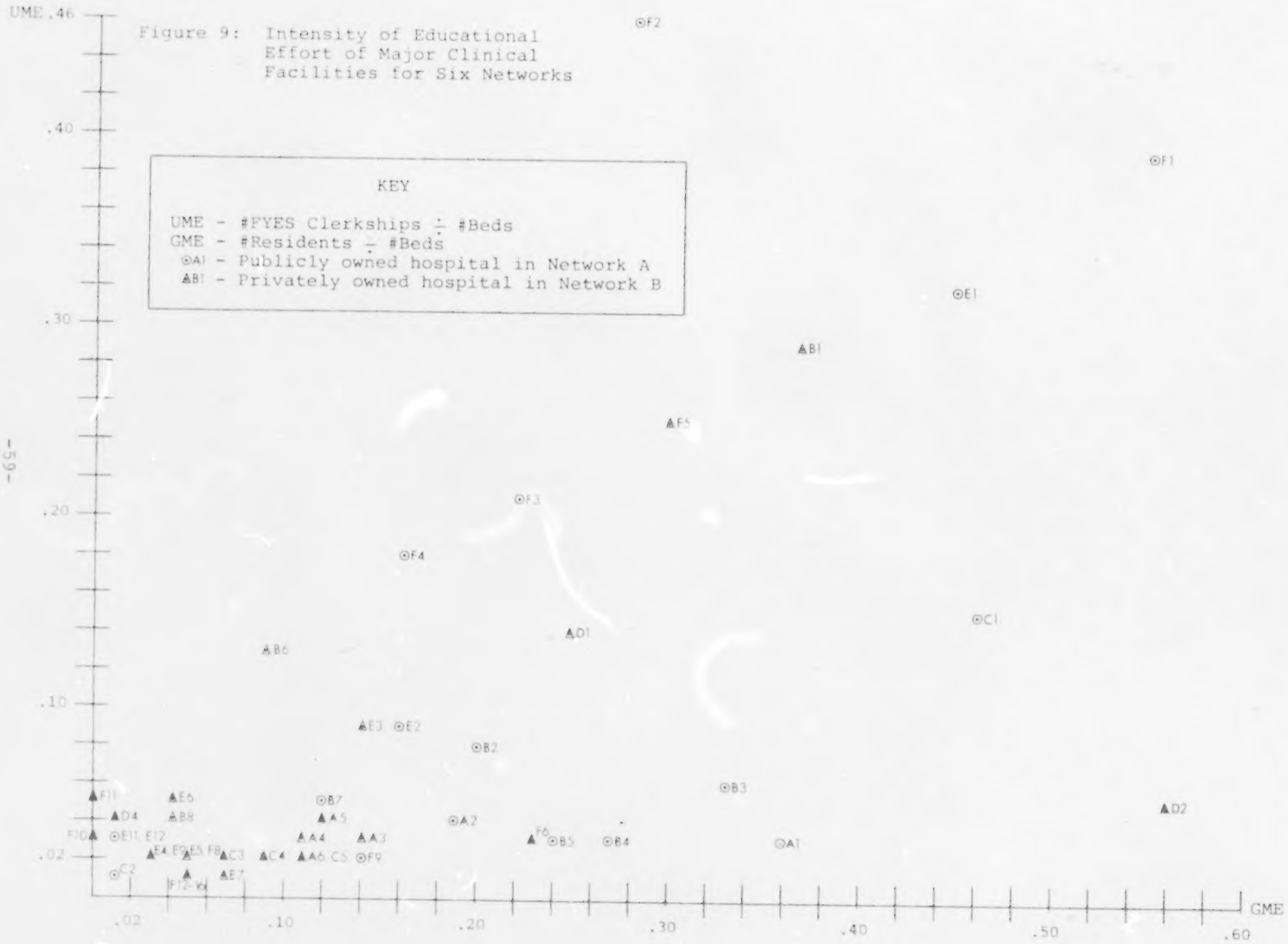
A second observation that can be made from figure 9 is that graduate medical education has a greater distribution of intensity across the range of institutions than undergraduate medical education. In other words, there are relatively few institutions which have a large involvement in undergraduate medical education relative to their size as compared to those with a large involvement in graduate medical education. 10 institutions out of 39 have undergraduate medical education involvement greater than .10 while 9 of those 10 and 16 others (25 in all) have at least .10 involvement in graduate medical education. This may be due to the desire of the medical school to keep close control over undergraduate medical education and/or the ability and desire of hospitals to be involved in graduate medical education.

Examination of the scattergrams for the six networks separately reveals the similarity and differences among the networks on the dimensions described. Not surprisingly the principal hospital of each network has a rather extensive involvement in education. Only one affiliated institution (D2) has an intensity (as indicated by distance on the chart from the origin) that exceeds that of the principal hospital. In addition, although there appears to be no relationship between intensity of graduate medical education and undergraduate medical education, there is a definite tilt toward more involvement in graduate medical education than undergraduate medical education for the majority of institutions.

When viewed separately, several of the networks (C, D, E, F) appear to have a two or three tier involvement of institutions in the undergraduate and graduate medical education. For example in network C (figure 12) there is the university hospital (C1), the major affiliates (C3, C4, C5) and the secondary affiliates (C2, C6). Network D (figure 13) has the principal hospital (D1) and the affiliates (D2, D3, D4) which have less undergraduate medical education. Network E (figure 14) has home base (E1) major affiliates (E2, E3) and all others while network F (figure 15) has the major affiliates (F1-5) and others. In network A (figure 10) where the new university hospital has just opened, there appears to be some equality among hospitals on undergraduate medical education involvement with some distribution on graduate medical education and network B (figure 11) has no clear pattern.

Tha data from the scattergrams and the previously displayed bar graphs only hint at the varieties of types of medical education networks and the types of inter-institutional relationships which can be found within such networks. For example, the tiers of affiliations indicated above do not display a totally consistent pattern across all the networks, and the patterns described are suggestive rather than conclusive.

Figure 9: Intensity of Educational Effort of Major Clinical Facilities for Six Networks



CHAPTER III -- MANAGEMENT OF AFFILIATION RELATIONSHIPS

This chapter sets out the study group's observations related to the key elements in the management of affiliations. It begins with a review of the motivations of medical schools and hospitals for entering into such arrangements and sketches the costs or disincentives which must be taken into account. It next provides a brief sketch of the governance structures of these institutions and of the decision making process related to graduate and undergraduate medical education. The following discussion proceeds from the observation that the term "affiliation" refers to a great variety of arrangements and sets out a scheme for classifying affiliation relationships. Finally, the chapter examines some of the key management problems to be faced and details some essential features of successful approaches to these problems.

A. Motivations of the Institutions and Costs Incurred

1. Medical School Needs for Hospital Affiliations

Medical schools seek hospital affiliations primarily to provide an adequate quantity and appropriate types of clinical experiences for their students. They are also interested in demonstrating responsiveness to public expectations and, in some cases, in gaining a source of patient referrals to the university or home base hospital, through their relations with other hospitals.

a. Access to Patients

Remarkable growth of medical student enrollment in recent years has resulted from the expansion of existing schools and the creation of new ones. For the former, major enlargement of the university hospitals was not feasible and outside opportunities were required; for the latter, the policy decision was frequently made to rely on existing community and governmental hospitals, sometimes supplemented by a small university facility, in order to limit new capital expenditures, to fully utilize available resources and to emphasize certain curricular objectives. Two of the six schools studied were new schools.

One school is utilizing previously existing hospitals; one of which has many characteristics of a university hospital. It is also developing a small university hospital. The other school is developing a university hospital which is also restricted in size. Each of the four established schools were fully utilizing the university hospitals and had some affiliations prior to the enrollment increases.

The types of clinical experiences available also play a role in the efforts of schools seeking access to more patients. This is true apart from the expansion and is derived from specialty needs, such as for Psychiatry, which are not always met in the university general hospital setting. Two other specialties are of note, vis. Obstetrics and Gynecology and Pediatrics. As a result of the sharp decline in birth rate in the last 15 years, there have been consolidations of service and reductions in number of pediatric beds. This has created or worsened problems at all of the four established schools for the discipline of Pediatrics. There are also problems in Obstetrics/Gynecology. These again are directly attributable to the declining birth rate and changes in public attitudes. The result has been that many hospitals are retrenching or even abolishing their obstetrical services or these are being consolidated. In some instances university (home-base) hospitals are having problems in maintaining services adequate for board requirements for graduate medical education. The whole issue in these two specialties is producing profound self-evaluation of their roles in the future of the practice of medicine as well as in medical education. This will be discussed in more detail in a later section.

The rise of interest in primary care, especially among the students has served as an impetus to provide more experiences in primary care through affiliations, because they are usually not adequately available in the university hospital. In one school an elaborate and well-functioning network has been established to meet this need. Each of the other five schools have some arrangements through which they meet such interests. In both of the developing schools, facilitating access to primary care models is a prominent element in the development of the affiliation systems. In the remainder this factor is present but somewhat less important.

Graduate medical education, which is frequently of prime importance to the hospitals, is a positive factor in affiliation decisions if the university or university-like hospital does not include all the clinical disciplines in sufficient number to maintain a viable educational program. In a developing school, this lack of critical mass is apparent in most of the services. In all but one of the six, pediatrics required supplementation of the base hospital for a truly viable program to be maintained. In several of the schools, this is also the case for obstetrics. Psychiatry is frequently inadequately represented in the base hospital, but this is usually because of the traditional separation of patients requiring this specialty.

b. Public Expectations

Although the educational needs may be the single largest force on the school for affiliation, the need to respond to the public as represented by the community and the region as well as initiatives of the federal government has abetted and shaped the pattern of affiliations. This applies whether the schools are public or private, established and enlarging, or newly developing. In every case in our sample, the pattern of affiliation has been definitely influenced by the perceived needs of the community and region. Pressure may be exerted directly on the faculty and dean or through the board of trustees of the university. In some cases, the state may have exerted influence directly; in each of the four state schools in our study, there was a legislatively-mandated department of family practice supported by a line-item appropriation.

In one instance, a state government, in effect, mandated a statewide affiliation. Wise development by the school created an effective arrangement and at the same time made these programs consonant with the school goals. The resulting program complements well the other affiliations in the state as well as affiliations with institutions in other states. One other state school was directed to affiliate with all of the hospitals in half the geographic area of the state. The remaining two state schools have definite commitments to defined areas in their state to act as a regional resource for health manpower development.

Responsibility to public needs and expectations without direct governmental coercion is evident in all six schools. One school, for example, has relations with more community hospitals than it needs for its educational purposes. This excess does give it increased flexibility; it also reflects the school's awareness of the general community support given to the founding of the school and the advantages of maintenance of this general support. Another school regards its affiliation with the city hospital as a financial burden and not essential to its educational programs, but the relationship is maintained because of the expectations of the community and the traditional association of the school with the hospital. Whether private or public, each of the six schools is sensitive to the public's expectations.

A benefit to the school is the link the affiliation gives to the community resources which themselves are linked to the hospitals. It allows experiences for the students with community agencies. This link also serves to enhance the presence, visibility and reputation of the school.

c. Patient Referrals

Paralleling the educational relationship established in an affiliation is a patient care connection through which the university hospital gains patient referrals. Not only does this assist in the maintenance of the hospital census, it also fosters the development of special services and skills by the faculty. Special abilities or services are desired by the faculty as a form of scholarly activity, as unique contributions to the region, and as a source of personal prestige within the discipline. The affiliated hospitals are not necessarily the most important source of referrals, but they may be useful. This appears to be a factor in the motivation of each of the six schools in their development of affiliations although it is a more prominent factor in some than others.

2. The Hospital Perspective: Motivations for Entering Into Affiliations with Medical Schools

Hospitals desire affiliations with medical schools

because of their contributions to the promotion of hospital goals: 1) the improvement of patient care; 2) ability of the hospital to be responsive to community demands; and 3) the prestige and competitive position of the hospitals.

a. Improved Patient Care

The primary mission of the hospital is the provision of patient care services. Improvement of patient care was universally described as the main purpose of hospitals for the affiliations. The quality of services is a major concern of the hospitals and participation in medical education programs is viewed as enhancing the quality of care provided. Graduate medical education programs are viewed as particularly desirable by the hospitals in this regard. While some hospitals maintain internship and residency programs unaffiliated with medical schools, accrediting bodies are becoming less tolerant of programs which do not meet increasingly rigorous academic standards. The assistance and resources medical schools can provide such programs is making their involvement desirable and in some cases essential to the maintenance of the program.

Residency programs are seen as contributing to the improvement of the medical milieu. Residents provide better coverage of the hospital services on a round-the-clock basis and provide assurance that competent professional assistance will be available in the case of emergencies. Residents supplement the efforts of attending staff and their combined efforts result in a better care of all patients.

Quality assurance is becoming an increasingly important aspect of a hospital's responsibility. While each hospital must have formal mechanisms for attending to this responsibility, the educational programs enhance these efforts. Self-examination, evaluation and critique of performance are part of the educational process.

Many highly competent physicians desire to participate in educational programs, and thus the opportunity to do so assists hospitals in the recruitment and maintenance of high-quality medical staff. The availability of highly trained specialists on the faculty facilitates appropriate consultations which not only lead to the direct improvement of patient care, but also makes membership on the hospital staff more attractive to attending physicians. Finally, access to large numbers of highly trained physicians con-

cerned with the practice of the newest and best medical care often provides substantial medical assistance to the hospitals in the development of needed new services.

b. Demonstration of Responsiveness to Community

Health manpower educational programs are increasingly identified by societal groups as serving desirable social objectives for the local community. Such programs are viewed as: 1) improving the career opportunities of the local youth; 2) enhancing the attractiveness of the community to physicians and other health practitioners; and 3) exposing students to the community setting, enabling them to make more favorable decisions in their ultimate choice of practice location. It is generally believed that physicians tend to practice near the location of their residency training; communities therefore seek residency programs as a device for recruiting physicians to the community and improving the health care resources available to it.

These factors have implications beyond the local to the regional, state and national levels. Both at the state and national level, government agencies are directing substantial efforts to affecting the geographical and specialty distribution of health manpower, particularly physicians.

Affiliation with medical schools or participation in medical education programs at both the undergraduate and graduate levels enable the hospital to demonstrate its sensitivity to the needs and wishes of its community in regard to the expectations described. Such responsiveness contributes to the community goodwill and its support of the hospital, its programs and its financial soundness.

c. Institutional Prestige and Competitive Position in the Community of Hospitals

Hospitals are organizations with characteristics similar to most other organizations in that they judge themselves, in part, on the basis of their standing relative to their peers. Participation in medical education is a positive factor in such comparisons. The reasons for this are implicit in the discussion above. As reported, its reputation is enhanced by participation in the educational programs affiliated with a medical school.

The hospital's reputation amongst its peers and its track record in meeting community needs, particularly with

respect to the kind and quality of services offered, are factors which positively or negatively affect the hospital's ability to justify and compete for funds for capital expansion. Such justification and competition are not a mere abstract matter of creating a certain good feeling for the hospital's project. Capital expenditure review and certificate of need programs at the state and national level are becoming significant determinants of the hospital's ability to implement its own planning objectives.

A development in patient care of national importance which is resulting from the extended involvement of the medical school is the increased regionalization of specialized patient care. The medical school interests are in having good educational experiences and services of adequate size and complementary to other available services. These education goals are compatible with the goals of regionalization to improve patient care and minimize costs. The three mechanisms used by the schools to participate in the achievement of these goals are selection, recruitment, and appointment of physicians to the faculty; the assignment of residents; and appropriate support applications to the Health Systems Agencies. Although the role of the HSA is still emerging and varies from place to place, the extent of medical school activities appears to be a consideration in their decision making.

3. The Costs of Affiliation: The Medical School Perspective

Medical schools encounter the following costs or problems when conducting programs in an affiliated institution: attenuation of control of the faculty on matters of educational quality and the quality of patient care, dollar and effort costs to the school, the creation of new levels of dependency on an organization not under its control, and greater effort required to assure the scholarly development of its faculty.

a. Quality Control

Where the medical staff of an affiliated hospital consists primarily of physicians who are not members of the faculty, the medical school has considerably less assurance that its concern for the quality of the educational and patient care programs will be accommodated.

While this can be, and frequently is dealt with effectively, this is a prime concern of a medical school in an affiliation.

b. Financial Costs

The study did not engage in a detailed examination of the financial costs of an affiliation relationship. Nevertheless, it became apparent that there are costs which are real and of importance. These costs include those involved in coordination of the programmatic activities between the school and the hospital, the additional costs of teaching on a site remote from the main center of activity of the medical school faculty and the cost to medical students. The faculty and administrative time is often offset and sometimes more than compensated for by the time donated by volunteer faculty, although, there are some indications that the schools may ultimately be required to pay for such services. With respect to student costs, geographic distance becomes a substantial factor involving commuting expenses to the student. In some instances, part of all of this cost may be borne by the hospital as a condition of the affiliation. The appropriate distribution of this cost is not established.

c. Dependency

An additional concern of medical schools in entering an affiliation relates to its dependency upon an organization not under its control. If the affiliation involves, for example, the abandonment of a particular service in a home base hospital in order that the community and institutional resources might be devoted to a more substantial and efficient service, the dependency of the medical school becomes relatively complete in that particular area of endeavor. Under such circumstances the medical school and its base hospital have lost a level of independence which it previously enjoyed. This may be for the good of the community and of the educational program, but it is nevertheless worrisome for the medical school. In the event of a breakdown of the communications or the working relationship between the two institutions, the medical school may be left without adequate alternative resources with which to meet its educational commitments. The study group noted two examples in our sample where this kind of dependency, coupled with difficulties in the relationship, threatened severe problems for the school.

d. Faculty Development

Finally a medical school is concerned with the scholarly developments of its faculty. The faculty members depend upon scholarly activity for both academic promotion and national reputation. In most but not all affiliated hospitals, there is little opportunity for faculty members with regular academic appointments to conduct investigations satisfactorily. Furthermore, an atmosphere conducive to research is dependent upon a level of activity and intellectual exchange not present in many affiliated hospitals. Some medical schools have moved to recognize scholarly activities other than research as merit for promotion. Others have de-emphasized such requirements as they apply to faculty in affiliated institutions by recognizing that the focus of the endeavor of such persons relates more substantially to the provision of patient care in the teaching program. Alternatives such as Clinician-Educator tracks are in development in some institutions as a positive approach to this problem. This alternative was not seen in the study. Nevertheless, medical schools will continue to be concerned about the level of scholarly activity of their faculty members, both because those without the opportunity to be productive in this area are likely to suffer in comparison with their colleagues, and because of the widespread conviction that education is better if conducted in an atmosphere rich in research activities.

4. The Costs of Affiliation: The Hospital Perspective

While a detailed examination of the financial costs was not undertaken, it must be pointed out that one of the concerns of the hospital in entering into an affiliation is the costs that it will incur by such a relationship. Participation in the educational programs involves some identifiable costs related to the efficiency of the patient care services. Participation in graduate medical education programs involves the payment of stipends to house officers. There are other educational expenses incident to such participation including the time of the faculty and staff engaged in supervision of the work of students and house officers. Students may also interfere with the efficiency of nursing care.

Of course no institution can long continue to operate if it incurs costs for which it cannot in some way be

compensated. Hospital cost reimbursement, because of the number of parties involved and the varying interests which they represent, is becoming an exceedingly complex and difficult management problem. Many costs, traditionally recognized as legitimately reimbursable are coming under increasing scrutiny and challenge as those paying the bills seek to limit their liability to costs directly attributable to the service provided to the patients for which they are responsible. Costs associated with educational programs often are not of a character which permit easy attribution to such identifiable services. To the extent, therefore, that educational costs appear to be unreimbursable, they represent a substantial disincentive to affiliation with a medical school. Additionally, any costs which result in higher charges adversely affect the attractiveness of the hospital in comparison with others in the locality.

There are three other concerns of the hospitals which may act as disincentives for them to affiliate with medical schools. These include the possible reluctance of its patient population to being included in a teaching program as a teaching patient. Hospitals with substantial experience in educational programs indicate that this is seldom a problem and in every instance there are provisions whereby the patient himself or his physicians may remove the patient from the teaching program where the course of his care indicates that this would be in his best interest. Nevertheless, hospitals entering into affiliations without such experience treat this as a matter of some concern.

The medical staff of a hospital may also exhibit some reluctance to participate in the education program. Where this occurs, it is a substantial disincentive for the hospital to participate. Staff reluctance arises from the concern of the physicians that they will have less independence in their medical practice in a hospital where the care is subject to the participation of house officers and students who are given a level of responsibility for that care. In one instance, it was stated policy that a balance between academic and private practitioners provided the most stable milieu.

Affiliation makes the hospital administrator's task of management of the hospital more complex. A new dimension of programmatic activity conducted in the

hospital and new centers of power and influence in the conduct of those programs reduce his independence and flexibility. He must deal with additional parties who have substantial influence on the hospital's programs. This loss of independence and flexibility of the administrator may act as a disincentive for the hospital.

Finally, a hospital is necessarily concerned about the impact of the affiliation relationship on its ability to determine its own patient care mission. Because of the inextricable ties between clinical education and patient care, the introduction of educational programs changes the character of a hospital. Few decisions relating to patient care programs can be made without reference to their impact on the educational programs; few decisions relating to the fundamental character of the educational experience can be made without reference to their impact on patient care. The presence and strength of graduate medical education programs, for example, are highly correlated with a hospital's ability to provide tertiary level services. Thus, medical school involvement in these programs directly influences the mission of the hospital and limits its autonomy in such determination. This constraint on its freedom of action is generally an important hospital concern.

B. Governance as a Factor in Affiliations

Part of the intricacy of medical school-hospital affiliations is a result of the internal organizational peculiarities of the two institutions. The hierarchical model of authority and responsibilities so frequent in business and government does not fully pertain to either one (and the two differ from each other). The organizational patterns create tensions when the institutions interface with the hierarchical agencies, as well as when these two interact with each other.

1. The Community Hospital

A large portion of the hospital activities can be managed in the hierarchical fashion. The principal area in which it cannot is that of the medical staff. The goals of the hospital administration must include being financially sound, meeting the goals of the hospital board -- which usually reflect the needs of the community (however broadly viewed) -- and maintaining a desirable reputation. The hospital staff largely determine the admission level and the length of the patient stay; the quality of medical care and the variety available. These impact heavily on the hospital, its financial integrity, and its reputation. In communities with multiple hospital facilities, the medical community has relatively high discretion in decisions regarding utilization of various hospitals. The high dependence of the hospital on its staff, coupled with the relative independence of the individuals in the medical community, inhibits the administration of this major part of hospital business in a hierarchical fashion.

Hospital-medical school relations are affected by this governance system since the medical staff has strong influence on the extent and kind of education and on the patient care pattern, both of which are of concern to the school. A management implication is that time and effort must be expanded with the staff to institute affiliations. Since medical staff composition and interest may change fairly rapidly, the maintenance of stability requires continual attention. The burden is not solely on the hospital administration, but is also on the medical school and its representatives.

2. Medical School

The medical school likewise is governed through a

system which diverges from the hierarchical model. A portion of its activities is "business-like"; a large portion is not. The faculty has (for some very important reasons) retained responsibility for the scholarly programs, research and education. The administration can facilitate these activities, can provide leadership, but a large amount of the authority remains in the faculty. The role of the dean of the medical school and the vice presidents of the university are limited by the requirement that their actions have the consent and support of the faculty.

The individual faculty members are subject to complex influences including not only those of the school and its components, but also the clinical setting (e.g. hospital) in which they work, and the professional discipline to which they belong. Much of the expression of the faculty is through the organized departments characteristically organized by professional disciplines.

The chairmen of the departments serve several critical roles: they administer the department in its daily affairs, its operations; they bear responsibility for program operations (patient care as well as research and education in the clinical departments) which are uniquely theirs because of the disciplinary division. They are influential spokesmen for their faculty to the administration.

The department chairman thus serves as an arm of the administration and as an agent of the faculty. This confluence makes the role of the chairmen very important in institutional actions. In the development and maintenance of affiliations there is high dependence upon the departmental chairmen and the operation of the departmental programs. Their role is prominent in determining the relationship between the practicing community physicians and the faculty. Their prestige can be a positive factor in the practicing community, expecially among their disciplinary peers.

3. Governing Bodies

The attitudes and policies of governing bodies have great influence on affiliations. Several instances were discovered of insistance by hospital trustees on the development of a teaching hospital as the route to quality care. The strong and persistent influence of one board of trustees in a community hospital was identified as a

major feature in its emergence and development into a major teaching resource.

4. Decision-Making in Undergraduate and Graduate Medical Education

While medical schools organizational structures vary somewhat, as do the names assigned decision making bodies or officials and the sequence of their actions, it is nevertheless possible to outline in general terms the decision-making processes of the institutions as they relate to the educational programs. The Tables on the following pages provide such a sketch, indicating the decision areas, the decision maker(s) and the factors considered. As these outlines demonstrate, the department chairman is in a pivotal role with respect to most of the decisions.

Table 2: Decision Making in Undergraduate Medical Education

Decision Area	Decision Maker	Factors Considered
1. Class size	University or Institution, with extensive school level consultation.	Mission of school; Community needs & pressures. Available resources.
2. Student Selection	Admissions Committee assisted by associate dean	Mission of school, selection factors resulting from school policies: GPA, MCAT scores, interview evaluation, state of residence.
3. Curriculum Design (length & content; required elective, selective course designation; and vacation time; scheduling and sequencing of courses)	Medical school faculty approves plan presented by curriculum committee; extensive prior consultation with dean's office and Exec. Committee of faculty.	Mission of school, preparation and needs of students, competencies of faculty and resources available.
4. Course Content	Department, usually head or his designee, often assisted by a committee//interdepartmental committee for interdisciplinary course	Fit of course in total curriculum; educational objectives of department; needs of students; competencies of faculty and resources available.
5. Number of students assigned to affiliated hospital per clerkship	Negotiated between hospital service and medical school department.	School needs & hospital resources
6. Clerkship management (assignment of students to faculty and/or hospital, monitoring experience)	Departmental coordinator; Designee of department head	Logistics, evaluation and feedback by students and faculty.

Decision Area	Decision Maker	Factors Considered
7. Inter-course/clerkship Coordination	Student year committee (departmental coordinators) and associate dean.	Logistics, evaluation and feedback by students and faculty of the quality of the clerkship site.
8. Management of instruction at affiliated institution	Educational Coordinator, Designee of department head, usually full-time appointment regular faculty title.	Course objectives, staff competencies, Patient mix.
9. Student evaluation and promotion	Individual faculty member to Education Coordinator to Course Coordinator to Student Year Committee to Promotions Committee	Performance against course objectives, knowledge, skills, attitudes and behavior.
10. Removal of unfit or disruptive student from hospital	Hospital reserves right to eject student	Rights and comfort of patients; good order of hospital and its programs
11. Faculty Evaluation and Promotion	Sequence of Approvals: Departmental Committee to Department Head to Faculty Committee to Dean to University Committee; University President and Board review and approval	Department, school and university standards and procedures.
12. Faculty selection and recruitment	Department Head advised by dept. committee; for tenured member, tenure committee is involved.	Special competence desired, experience and reputation of candidate

Decision Area	Decision Maker	Factors Considered
13. Department Head Selection and Recruitment	Dean, advised by search committee of faculty with preponderance of membership from outside department, often includes outside consultants.	Needs of department for particular kinds of experience competence or leadership.
14. Dean Selection and Recruitment	President, advised by a search committee of faculty, may include faculty from outside school and other consultants.	Needs of institution for particular kinds of experience, competence or leadership.

Table 3: Decision Making in Graduate Medical Education

Decision Area	Decision Maker	Factors Considered
1. Program Size (# of Positions available/yr)	Hospital Director sets limits on # which can be accommodated within constraints of budget; Program Director sets number within these limits	Funding patterns and reimbursement limitations, patient load and mix; faculty interests and competencies; community expectations.
2. Program Content	Program Director with advice of Departmental faculty	Specialty Board Certification requirements; resources and faculty available; patient load and mix, other institutions.
3. Program Management (Assignment, scheduling, sequencing of rotations)	Designee of Program Director, many operational matters handled within house officer structure, i.e., chief resident has and assigns responsibility for on call schedule	Academic objectives of program, specific needs and objectives of house officers, hospital "coverage requirements".
4. Instruction at affiliated hospital	Education Coordinator advised by Departmental committee, with hospital service chief sets up teaching conferences and coordinates teaching rounds; attending staff supervise provision of patient care.	Educational needs of house officers, feedback from utilization review, tenure committees, etc., studies of staff performance, unique competencies of available instructors, patient care outcomes in hospital.
5. Recruitment and Selection of House officers	Program Director, assisted by committee of faculty which generally includes representatives of each hospital participating in an integrated program	Undergraduate Performance

Decision Area	Decision Maker	Factors Considered
6. Selection of Program Director	University Hospital*: Dept. Head is or selects Intermediate*: Dept. Head selects or concurs in hospital appointment Major Affiliate*: Ranges from hospital concurrance in Univ. appointment to Univ. concurrance in hospital appointment Limited Affiliate*: Ranges from some to almost no Univ. involvement	Experience and reputation of candidate.

*see classification of affiliations

C. Classification of Affiliations

The term "affiliation" is used loosely to indicate a variety of relations, highly interdependent to highly dependent, integrated to nearly autonomous, involving differing activities (education, undergraduate, graduate, and post-graduate or continuing as well as patient care services). Further, some of the relations approach cooperative partnerships, in others one of the parties displays exaggerated dominance.

This study was of affiliations for graduate and undergraduate medical education, the former usually of higher interest to the affiliated hospital, the latter to medical schools. A classification of affiliations based on education is possible. Other variables on which classifications can be based are faculty-medical staff relations, departmental chairman-service chief relations, chairman-educational officer relations, patient care patterns, and the organizational responsibility of the hospital management. Since for each variable there are many variations, the number of combinations possible is large. These are, however, patterns of relations among the variables permitting classification primarily on educational relations. Excluded from this discussion are financial and other costs related to the relationship elements which were considered outside the purview of this study.

1. The University Hospital

Whether "owned" by the university or legally separate, one hospital or one set of hospitals form the "home base" of the medical school. The characteristics of these are:

- -- the educational mission of the medical school is reflected in the mission of the hospital;
- -- the medical school recognizes that it has moral, if not legal, responsibility for the financial integrity of the hospital;
- -- undergraduate and graduate medical education is conducted in all appropriate disciplines;
- -- the hospital medical staff generally is composed entirely of medical school faculty;

-- service chiefs are, or are appointed by, the medical school department chairmen;

-- the patient care pattern is heavily influenced, if not determined by, the medical school.

It is appropriate to consider two subdivisions of this category. The subdivisions are based upon whether or not the hospital is owned by the university with the medical school and hospital ultimately governed by the same board. Commonly the non-university owned hospital which functions as a university hospital is so closely integrated with the medical school that the distinction is usually not relevant to programmatic descriptions though it may be of importance to the entity which owns the hospital. However, in the study, one medical school which had had a relationship with a public general hospital which would be described as university-like is now establishing a university-owned hospital; the public hospital is being abandoned as a university hospital.

The medical school may have relations with more than one university hospital because of size or because of specialty characteristics of the hospital. Not in the study, but known to the investigators, are medical schools which do not have a university-type hospital as a base. The schools are entirely dependent upon the affiliations and associations as described below. At least one of these schools does not operate an extensive graduate medical education program. The viability and efficacy of these arrangements should be evaluated in a separate study.

2. "Home Base Extenders"

There is a group intermediate in the degree of integration between the university hospital and the affiliated hospital. The characteristics of this intermediate group are:

-- education and scholarship are recognized components of the hospital mission;

-- the patient care pattern is significantly influenced by the medical school;

-- full range of appropriate educational programs, graduate and undergraduate is present;

-- many of the staff are faculty members with regular academic titles. In many instances, the faculty may move to or from the university without disruption of their career;

-- the chiefs of service are commonly appointed by, or at least are subject to the concurrence of, the appropriate medical school departmental chairman;

-- educational officers, if separately identified, are similarly appointed and maintain a responsibility to the medical school;

-- the hospital administration, though responsible to authority outside the university, is substantially influenced by the school in order to achieve the other characteristics.

This group of hospitals is extremely important to the related medical school. They are sometimes so well integrated with the school's educational programs that they are considered an extension of "home base". They promote better and more cost-effective patient care for the region through the development of complementary patient care services. In some cases, not in our study, they serve as the "University Hospital".

Some of the Veterans Administration Hospitals clearly fell into this category as do some publicly owned general hospitals. Affiliation agreements exist and the term "affiliated hospital" could be applied, but the closeness of the alignment of the education and patient care goals of the clinical unit and the medical school permit a separation from the other affiliates.

3. Affiliated Hospitals

The term is applied to hospitals in which by agreement are conducted undergraduate or graduate medical educational programs, usually both. They generally differ from the preceding in the extent of mutual identification and closeness of goals.

A wide spectrum in the breadth and depth of interrelations is found. For descriptive purposes we have

divided the relations into two groups although the intermediate gradations are many.

Major Affiliates

This group, the type most frequently visited in the study, has the following characteristics:

-- both undergraduate and graduate educational programs are likely to be present.

-- the scope of disciplines involved may well be less than the entire range possible.

-- the medical school retains responsibility for the educational programs which are usually an integral part of the home base programs. (Family Medicine may be an exception). The undergraduate programs may or may not qualify as equivalent to the university hospital experience.

-- a small fraction of the medical staff are members of the regular faculty. Clinical (adjunct) titles may be utilized for others.

-- chiefs of service and educational officers are selected by a process requiring the concurrence of both the appropriate medical school department chairman and the hospital governance. Where the relationship is more intimate the medical school plays a more predominant role in the selection.

-- the medical school has limited influence on the Board of Trustees.

-- the medical school has some influence on the patient care pattern.

This group provides important supplementation and in some cases complementation to the medical educational programs. In varying degrees these affiliations assist in avoiding duplication of patient care services.

Minor Affiliates

This group augments the university programs by providing limited educational opportunities.

-- educational programs usually are limited in disciplinary scope and may be undergraduate and/or graduate. The undergraduate experiences tend to be in elective clerkships. The graduate medical education programs, if integrated into the university program, are likely to be for supplementation and of short duration. There may be separate graduate medical education programs for which the university has limited management and quality assurance responsibilities.

-- medical staff has few members with faculty appointments and these will usually have clinical or adjunct titles.

-- chiefs of service are appointed by the hospital with concurrence by the medical school.

-- educational officers are usually appointed by the medical school subject to hospital concurrence.

-- patient care patterns are only minimally affected by the interaction of the hospital and university.

-- influence of the medical school on the Board of Trustees exists, but is quite limited.

4. Associated Hospitals

The medical school may develop agreements with diverse clinical units, either to supplement its educational programs or to assist the hospital's educational program. The medical school does not exert quality assurance in the hospital nor manage the educational programs. The degree of interdependence is very low. Most commonly the primary purpose of the affiliation is the strengthening of the hospital's continuing medical education programs. This is accomplished through medical school faculty participation in the programs on an intermittent basis.

D. The Management Problems

This study examined primarily the relationships at the middle of the spectrum described in the previous section. That is, neither the university (or home base) hospitals nor the associated hospitals were the chief focus of inquiry. The university hospitals were excluded because their relations to the schools appeared to be primarily a matter internal to the management of the university. Conversely, associated hospitals appeared to be too peripheral to the schools' undergraduate and graduate medical education programs to warrant substantial attention. Additionally, the mutual interests of the schools and these hospitals was judged to be so circumscribed as to present less complex problems than those found in the more intimately related institutions. The observations which follow relate primarily to home base extenders, major and minor affiliates. The extrapolations required for application should be possible with relative ease.

1. Institutional Commitments

Where there is appreciable joint participation in medical educational programs medical schools and hospitals each require a series of commitments of the other.

The medical school requires that:

-- the hospital be committed to medical education;

-- it have a formal communication link to the hospital board;

-- it control undergraduate medical education in the hospital and influence on other educational programs;

-- students be permitted to assume progressive responsibility for patient care under faculty supervision;

-- it have authority to either appoint service chiefs or concur in hospital selections;

-- members of the faculty be permitted appropriate patient care privileges;

-- the faculty have a role in influencing the quality of patient care;

-- patient records be available for teaching purposes.

The hospital requires that:

-- the medical school recognize the hospital's responsibility for patient care;

-- the medical school respect the hospital's institutional identity and need for autonomy;

-- it retain control over its institutional goals and priorities;

-- it retain control over appointments to the medical staff and selection of its officers;

-- continuity and predictability in patient care coverage is assured;

-- it have the ability to influence the selection of the residents it is assigned (and to reject those it wishes);

-- it have adequate means to support the educational commitments;

-- it have means to minimize conflicts among its staff and avoid debilitating town gown conflicts.

The accommodation of each institution to the requirements of the other is the preeminent management problem. Simply acknowledging the medical school's accountability for the quality of the educational program and the hospital's accountability for the quality of patient care does not, for example, create a clear division of responsibility. The school is properly concerned that quality education is impossible or at least highly problematic in the absence of high quality patient care. Conversely, the hospital is cognizant of the possibility that the educational program could become disruptive of the care provided. Thus neither institution is willing to fully relinquish control of these matters to the other. Furthermore, both of these functions are performed by physicians with overlapping membership on the faculty and medical staff and with the consequently overlapping reporting relationships.

Finally, the very nature of the educational and patient care tasks require that they be performed by highly trained professionals who operate with a large measure of autonomy, subject less to a system of hierarchical reporting relationships than the term "management" sometimes implies.

Those involved in the development and maintenance of affiliations need to be cognizant of the fact that community hospitals may be in a competitive position vis a vis the home base hospital, that faculty-staff relationships often present problems, and that questions of "control" usually epitomized in the locus of authority for the appointment of service chiefs, education officers and house staff are among the most highly charged issues to be managed if not resolved.

While medical schools are dependent upon affiliated hospitals for their educational programs, the university or home base hospital is often in competition with the affiliated hospital. They may compete in attracting patients, in developing community support, and in acquiring new technology or equipment. While these factors influence a hospital administration's strategy and the policies of the hospital board, they are of even sharper significance to the medical staff. Where hospitals are competing for patients, the patients in question are more immediately the patients of physicians who are members of either the university or the affiliated hospital medical staff. As a consequence, the hospital staffs are in competition over a matter which is of fundamental significance to the professional practice and livelihood of the physicians concerned. Thus, hospital policies are necessarily influenced by considerations related to the interests of their staffs.

In marked contrast to the situation at the university or home base hospital where the staff consists almost entirely of academic physicians with faculty appointments, and where, therefore, there is a commonality, if not an identity of interests, the affiliated hospital staff often includes many whose interests diverge substantially from those of the faculty.

2. <u>The Town-Gown Phenomenon</u>

There often arises a certain level of tension between academic physicians and practicing community physicians which is referred to as the town-gown conflict. This tension can be illustrated by a series of perceptions each

group has of itself and of the other. (This is an exaggerated composite picture based on many observations and has no reference to any particular situation.)

The community physician views himself as:

-- a solo practitioner or member of a small group practice largely dependent for his livelihood and professional well-being on his own unsupported efforts,

-- in closer contact with the needs of patients and the community because of his own dependence on serving them well,

-- putting patients welfare above all other considerations, interested in them as people and devoted to serving all of their medical needs,

-- despised by the academic physician because of his more modest academic attainments, devotion to scholarship and development of special expertise.

The community physician views the academic physician as:

-- enjoying the security and support of a large and powerful organization, with no need to attract patients by demonstrating sensitivity to their needs,

-- having divided interests and loyalties which often result in the patient getting less than undivided attention,

-- focusing his practice on areas of relatively narrow expertise, accepting more limited personal responsibility,

-- enjoying the luxury of conducting research leading to professional recognition and highly developed skills which cannot be obtained by those engaged in "really taking care of people"

-- having an unjustified confidence that he knows better how to care for patients and exhibiting a consequent desire to wrest control of the management of patients from the community physicians.

The academic physician views the community physician as:

-- more interested in treating large numbers of patients and making money than practicing good medicine,

-- satisfied with the knowledge and skills acquired during his own training and less interested in updating them with the most recent research findings,

-- preferring to exercise his own unfettered judgment to the rigor of constant peer evaluation and judgment,

-- paranoid about his status in the eyes of academic physicians,

-- unwilling to recognize his limitations and entrust his patients to those with superior competence,

-- desirous of having housestaff programs in his hospital for the convenience it provides him, but unwilling to make the accommodations necessary for a high quality educational program.

This discussion provides more a caricature than a realistic picture, but it is intended to illustrate the polar positions so that the more complex reality can be better appreciated.

3. Who's In Charge?

These divisions of perceptions and the underlying divergence of interests that are sometimes very real and sometimes more symbolic than real are often reflected in problems related to structuring the organizational relationships between the school and hospital and between hospital service and medical school department. The objective is to structure the relationship in a way which will accommodate the legitimate interests of those concerned yet not replicate the sources of tension in ways which will stymie effective mutual cooperation.

The medical school requirement that it control the educational program means that it reserves the authority to

appoint as faculty those who will be involved in the teaching program. Additionally, it means that it must appoint the person in charge of the program, usually at the hospital service level. The hospital requirement that it remain accountable for the patient care means that it retain authority in its medical staff over the appointments to the staff and the selection of its leadership. Because of the interrelationship between patient care and education, however, it is necessary that the faculty have staff privileges and that the school have some influence on the selection of the staff leadership.

Generally, the award of staff membership to faculty members presents no great difficulty. There are cases, however, where dissention between the faculty and staff limit the opportunities of faculty to provide patient care in the hospital. Similarly, physicians dedicated to teaching generally have little difficulty in obtaining recognition of this in the award of an academic title. This will normally be an adjunct, modified or clinical title where the physician wishes to retain his primary identity as a community physician. Appointment to the full time or regular faculty is a far more involved procedure.

Where there is a full time chief of a service substantially involved in the educational program, the medical school will expect a role in his selection and appointment. This may range from the medical school department head having a primary role in the chief's selection to his merely having authority to concur in the hospital's selection. In any event both institutions will be involved.

The education coordinator of the hospital's participation in the school's program will invariably be a salaried (usually full time) position. He will usually be the chief of service in cases where the institution has one, selected in accordance with the procedures described above. Where the hospital staff elects its service chiefs on an annual basis, the education coordinator will be a different person, appointed for an indefinite period by the medical school and holding a regular academic appointment. Again, the process may range from a medical school selection merely concurred in by the hospital, to one selected primarily by the hospital staff and merely concurred in by the department head of the school. Quite obviously, severe problems arise in situations in which one party or the other feels impelled to accept an appointment not considered

suitable. This situation was observed at several sites during the study and resulted in long term difficulties in the relationship between the two institutions.

4. Management of House Staff Programs

Another "control"problem is found in the management of house staff programs. These are found in three varieties: Integrated, Affiliated and Independent Programs. Integrated programs are managed at the medical school department level. The department head is the program director and the "home base" of the program is the home base or university hospital. Other participating hospitals receive the residents for a period of rotation, generally having an agreed upon number on board at all times. The education coordinator at the affiliated hospitals is the program manager for that hospital under the direction of the department head. He is usually a participant in the recruitment and selection of residents to the total program and has some say in the assignment of individual residents to his service. Ideally, he has at least the power to reject the assignment to his service of someone considered unsuitable.

An affiliated program is less intimately connected with the school. It is generally conducted almost entirely within the sponsoring hospital with some supplementation available at the university hospital. The program director is identified primarily with the hospital although the school assists in his recruitments and selection and concurs in his appointment. Supervising physicians will often have faculty appointments, but these titles may reflect their involvement in the school's undergraduate education program rather than the residency program.

Independent programs are conducted entirely under hospital sponsorship with little or no formal relationship to the medical school. Hospitals with these programs are generally much less involved in the schools' undergraduate programs. There are exceptions to this rule, generally found in institutions with long standing and highly regarded programs of graduate medical education.

The "who's in charge" problem occurs most acutely in new affiliations involving hospitals with preestablished graduate medical education programs.

Where these programs are considered inadequate by the medical school department head, he will seek to exercise substantial influence while the service chief or program director and frequently the medical staff are reluctant to relinquish authority over the program. This is less a problem, or none at all, where the accreditation of the residency program is threatened and the assistance of the medical school is viewed as essential to the maintenance of the program.

In the case of new schools developing affiliations with hospitals having established and strong programs another kind of a problem occurs. The school department head may regard some authority over the program as essential to his responsibility while the hospital chief often resists intrusion into his domain. The problem for the new school is exacerbated where it is required to affiliate with several hospitals having these characteristics. The department head may find himself with an extremely limited base of authority for carrying out his responsibility.

E. Elements in Effective Management

Medical schools and affiliated hospitals interact at several levels of their respective organizational structures: academic faculty-medical staff, department head-chief of service, dean (medical school administration)-hospital director (hospital administration), university trustees-hospital governing board. Effective relationships at each level are important for the affiliation to produce mutually satisfactory results for both institutions.

1. Department-Service Harmony

The basic operational units involved are the medical school departments and hospital clinical services. It is at this level that the actual responsiblity for carrying out the institutions' respective missions rests. If the affiliation is unsatisfactory at this level, it is virtually impossible for it to be productive. In almost every instance, the quality of the relationship is epitomized by the personal professional relationship between the department head and the chief of service. This may, in turn, be conditioned in part by other factors but a relationship of mutual trust, respect and support between these two officials is a key element in a successful affiliation. One manifestation of such a relationship is the conscious development of complementary rather than competing capabilities in the university and affiliated hospital. Building on the unique strengths of each institution and

establishing discrete centers of excellence is one strategy observed which resulted in strong and effective ties between the school and hospital. A second manifestation is the even handed distribution of residents in integrated programs. An institution which receives its share in terms of both number and quality is far more responsive to resolving mutual problems than one perceiving itself to be getting short shrift. Similarly, the development of an atmosphere leading to the view that faculty assignment at the affiliated hospital is equally desirable and supportive of professional advancement enhances the respect between institutions.

Conversely, where the affiliation is viewed as a mere convenience to meet already committed teaching or service responsibility or where it is seen as a temporary measure while alternatives are being sought, the prospect for failure is great. Because of the mutually supportive character of the programs in various departments and services, it may be necessary for one department to lend its support to an affiliation even though it is less essential to that department than to the school as a whole.

The strength and vitality of the affiliation is largely dependent upon departmental support; weaknesses, friction and failure are often generated at this level.

2. Institutional Support and Coordination

While departmental-service relationships are essential, they are not sufficient for effective affiliations. Some issues such as financial negotiations and the commitment of institutional resources require institutional level support. Similarly, there needs to be a mechanism for coordinating the efforts and resolving problems involving several departments and services. Finally, there needs to be someone who can articulate with authority the institutional perspective and policies relating to the affiliation.

In the medical schools studied each provided coordination through the office of the dean or vice president. In one, the position was recently established in response to problems which made its desirability apparent. In another, there remained problems of coordination because the approach to the affiliations was not internally consistent within the medical school-university administrative structure. Three schools centralized responsibility for all

administrative relationships with the affiliated hospitals in the office of an associate dean for clinical affairs. Two schools split the responsibility among associate deans along educational program lines, i.e., one for graduate and one for undergraduate medical education programs.

The need for institutional coordination is not confined to the school. Each hospital needs an institutional official responsible for such tasks as well. While the hospital director may serve in this role, and in any event must be both committed to and involved in the affiliation, this function is often served by a member of the medical staff, frequently either the chief of staff or (especially where this is a short term elected office) a member of the full time staff with stature and seniority. In many of the more intimate relationships this person is highly respected and closely tied to both the school and the hospital. In some instances, notably in several of the V.A. hospitals, the full time chief of staff of the hospital also holds the title of associate dean in the school.

Other links are also noted. In three of the networks examined, liaison committees have been established to facilitate coordination between the institutions. While these were not generally regarded as effective problem solving or conflict resolution mechanisms, they did appear to be a useful devise for keeping the key officials in contact and for displaying grievances which required attention. Several agreements provide for a medical school representative to sit with the hospital board and the medical staff executive committee. The importance of these mechanisms is primarily the channel of communication they provide and the function they perform in alerting the institutions to the problems requiring attention.

3. Institutional Policy Framework

While the previous discussion has emphasized the coordinating function, it touched on the related but distinct matter of institutional policy development. Coordination is often impossible in the absence of a coherent institutional approach or set of policies. Similarly, in the absence of an institutional framework, it is more difficult to constrain any tendency to seek parochial advantage at the expense of the interest of the

total institution. Thus, effective affiliation relationships require attention on the part of each organization to structuring internal mechanisms by which competing values can be weighed and managed.

F. Stabilizing and Unbalancing Factors

A number of factors that tend to promote or disturb the stability of the affiliation were uncovered in the study.

1. Identification of the medical staff with the medical school. The relationship of the medical staff to the medical school is of fundamental significance in the relationship between the two institutions. Their identification with the medical school assists materially in solving or preventing problems. Contributing to this feeling of identification are the duration of affiliation, an inertial factor, a large fraction of the staff having graduated from the medical school, personal involvement in the school, and the appropriate use of remuneration and award of academic titles by the school. Personal involvement in the school may come through past support, participation in the educational process or participation in the medical school affairs. It occurs when an individual shifts from faculty to practicing physician status and remains in the area.

New schools cannot depend upon the first two, duration and inclusion of graduates. They thus have emphasized the other methods, more active participation in medical shcool affairs and award of titles or payment for services. In a new affiliation, volunteers are usually numerous. However, over time some of the medical staff tire and become less interested in active participation in medical school affairs. This phenomenon should be recognized and titles should be kept current so that they do not lose their value through inflation.

2. Meeting each other's expectations. Instances of failures were encountered where the problem was the absence of a clear prior understanding of the expectations of the other party because of inadequate specificity and clarification. This is primarily a communications problem requiring attention. In other instances it became impossible, because of matters outside the control of the

institution, to continue to meet the expectations of the other. For example, the census problem in both obstetrics and pediatrics at a suburban hospital are beyond the control of the hospital.

3. Balance of perceived dependencies assist in stabilizing an affiliation. This is particularly true when the dependencies are high, as in the situation in which almost total integration has occurred. It is also present in several medical school-V.A. hospital affiliations. There is in our sample an affiliation example with unbalanced dependencies in which only the presence of other stabilizing factors (alumni loyalty and a tradition of involvement with education) has prevented the dissolution of the affiliation.

4. Inclusion of reluctant groups (e.g. a department involved in a hospital which is not perceived as contributing to its needs and programs). The reluctant group can be successfully incorporated if the group recognizes the importance to the institution.

5. The traditions and habits of the institution may be a factor. Each institution develops a set of traditions and customs, a personality, which it brings to an affiliation. To the extent that a change in this set is necessary to accommodate to the affiliation, problems will be generated by the incorporation of the institution within the system. On the other hand, if a hospital has, for example, had a strong tradition of graduate medical education with teaching and patient care services similar to that of the University, less adjustment is necessary.

A special problem has been the development of family practice in a site previously dedicated to secondary and some tertiary care. The pattern of education and training, the interests of house staff, and the expectation of the medical staff from the two types differ remarkably. This transition has been facilitated, at one site, by a period with no or few residents so that the prior pattern was interrupted before the imposition of a new one.

Stability of affiliation relationships though desirable, is only achieved by resolution of issues or problems as they arise. It is therefore most important to have some mechanisms of conflict resolution in place, preferably established as part of the affiliation agreement, before an affiliation is activated.

CHAPTER IV -- FURTHER CONSIDERATIONS RELEVANT TO THE MANAGEMENT OF AFFILATIONS

There are a series of considerations relevant to the management of affiliations in addition to those set out in the previous chapter. The impact of controls and regulations, the regionalization of patient care, the development of affiliation networks as education and patient care systems, clinical specialties with noteworthy characteristics, some features of teaching in the ambulatory setting, the influence of the university hospital's needs and objectives, the role that the experience of each institution has in the determining character of the relationship, and allocation of resources for sponsored programs are matters discussed in this chapter.

A. Impact of Controls and Regulations

In studying the six medical education networks which provided the data base for this study, it was repeatedly observed that controls and regulations arising outside of the medical schools and hospitals have substantial influence on the form, content and impact of these affiliation relations. To appreciate the impact of these external controls, it is necessary to examine the current situation in light of its historical precedent.

With the exception of some government and church-sponsored hospital systems, hospitals have traditionally been individual, free-standing corporations whose operations were constrained primarily by hospital policies and available resources. Subject to the agreement of the institution's Board of Trustees, medical staff and adminstrator, hospitals have been able, on their own initiative and with only limited external reviews, to add or delete facilities and services, to purchase new equipment, to determine the criteria for granting medical staff privileges to establish charitable care goals, and to set patient charges. Just as hospital operations were traditionally unbridled, there were few external organizations constraining the medical school-hospital affiliation: 1) specialty boards determined requirements for board-eligibility, and 2) with the boards and others the American Medical Association established

minimum training program essentials and surveyed programs and granted them "approved" status. Aside from these limited external parties, hospitals and medical schools were free to establish affiliation agreements according to mutual agreement.

The contemporary situation is dramatically different from the traditional autonomy of hospital operations and affiliation agreements. Hospitals are operating in an increasingly structured setting constrained by government controls -- such as health planning, peer review and reimbursement limitations -- and by private agency controls such as those established by the Joint Commission on the Accreditation of Hospitals. In a similar manner, medical school-hospital affiliation agreements are increasingly shaped by state and federal manpower controls and by private agency accreditation requirements.

This section provides a description of graduate medical education programs and how external controls and regulations are constraining hospital operations and affiliation relationships. The description is illustrative rather than exhaustive. Government controls considered are limited to those arising from health planning, peer review, reimbursement limitation, renal dialysis and health manpower legislation; private agency controls will be limited to those established by the Joint Commission on the Accreditation of Hospitals and the Liaison Committee on Graduate Medical Education. Because hospitals have developed quite autonomously and because hospital training programs are adapted to local conditions and traditions, these external controls and regulations will not have identical impacts on all affiliation relationships. Nevertheless, these are impacts thought to be sufficiently common that they merit description.

- Health Planning

The National Health Planning and Resources Development Act (P.L. 93-641) was established: "(1) to facilitate development of recommendations for a national health planning policy; (a) to augment areawide and state planning for health services, manpower, and facilities; and (3) to authorize financial assistance for development of resources to further that policy." More succinctly, the Act was established to rationalize the allocation of health care resources in order to reduce the underutilization and

duplication of facilities and services.

To accomplish these purposes, the Act establishes a hierarchy of local, state and national health planning agencies to evaluate and approve (or disapprove) changes in hospital services, facilities and capital equipment. In making resource allocation decisions using health status, patient care and utilization criteria, planning agencies will simultaneously be making decisions about a key educational resource: the teaching patient. If health planners elect to rationalize health care resources by concentrating tertiary services in a limited number of hospitals, the significance of those same hospitals for graduate medical education will increase. At the extreme, the number of affiliated hospitals may decrease if these hospitals providing tertiary services increase the number of house-staff positions available in each program. On the other hand, if health planners elect to rationalize the system by distributing tertiary care services among the community's hospitals, each hospital will hold an essential element for graduate medical education, the number of affiliations will have to increase, and increasing rotations among affiliates will be required to provide a comprehensive education. Thus, it should be clearly understood that regardless of how health planning activities realign patient care resources, they will affect the number, distribution and concentration of medical school-hospital affiliations.

- Professional Standards Review Organizations

The 1972 Professional Standards Review Organization (PSRO) amendments to the Social Security Act were established to help ensure that patients with care financed under the Act receive the appropriate diagnostic or treatment service, at the proper time and in the correct patient care facility. A critical organizational element in the program is a set of local area PSRO's which blanket the nation and whose functions include conducting concurrent and retrospective patient care review in order to demonstrate that the treatment pattern in a given case is consistent with professionally determined norms.

One objective of the PSRO program is to stimulate patient care patterns through which the hospital is used only for those services that it is uniquely able to provide. As a result, the program supports pre-hospitalization testing and early hospital discharges. This will change

the patterns of graduate medical education. To gain an understanding of a disease history, the physician-in-training must be involved in the patient's case from the earliest possible point through its conclusion. As pre-admission testing and early discharge practices gain acceptance, medical education programs will need to be restructured to ensure that the resident is involved in the patient's care prior to and following hospitalization.

A second PSRO stimulated change will be a subtle shift in teaching hospital goals for federally-supported patients. Teaching hospitals have pursued both educational and patient care goals. As PSRO programs develop differing sets of norms for similar diagnoses in teaching and non-teaching hospitals. More likely, teaching hospitals will be subject to the same treatment norms as non-teaching hospitals for comparable patients. Educational objectives in teaching hospitals will have to accommodate, rather than blend with, patient care objectives.

- Reimbursement Limitations

The dramatic increase in health care expenditures in the past three decades has stimulated a nationwide interest in reducing the rate of increase in health costs. Section 223 of the 1972 Social Security Act Amendments established a program of reimbursement limitations for Medicare and Medicaid patients. In addition, many states have enacted cost control or reimbursement limitations for Medicaid, Blue Cross and/or private pay patients.

Unless reimbursement programs recognize and fully adjust limitations for justifiable cost differences resulting from offering more technologically sophisticated services, caring for a more complex patient care mix, and funding necessary educational program expenses, hospitals will have a disincentive for participating in graduate medical education. In such a situation, community hospital affiliates will avoid and perhaps terminate medical school affiliations. This will limit residency program access to community-based institutions which frequently serve as primary care training sites, and it will increase the relative importance of the base or university-controlled hospital for medical education.

- Renal Dialysis

The end-stage renal dialysis (SRD) treatment program was enacted to provide a comprehensive renal dialysis and transplantation program funded by the Social Security Administration. As it is currently being organized, the program is establishing coordinated networks of renal disease treatment facilities on a regional basis.

As with health planning, the organization of treatment services in the ESRD program simultaneously organizes available educational resources; however, unlike health planning, the ESRD program clearly is following the approach of centralizing resources. A limited number of facilities in a large geographical area will be approved to perform one or more renal disease treatment services with the designation of approved facilities based on patient care requirements. Present regulations do not give consideration to including education and training criteria as major considerations in deternmining ESRD facility approval. The concentration of treatment facilities will require that medical schools seek and maintain affiliations with approved facilities, and residency programs involving kidney disease treatment will either have to be concentrated at the approved facility or residents will have to be rotated through programs at such a facility.

- Health Manpower

The Health Professions Educational Assistance Act of 1976, (P.L. 94-484), seeks, in part, to increase the number of graduate medical education positions in family practice, general internal medicine and general pediatrics. One method used to stimulate this increase is the linking of medical school capitation grants to the percentage of primary care residencies in a school's affiliated hospitals.

As a result of this legislation, medical schools which presently do not meet the required primary care percentages have an incentive to seek additional affiliated residency programs in primary care; however, the hospitals have no similar financial incentive to establish or expand these programs. In specialty and subspecialty areas, medical schools have a reduced incentive to seek additional or expanded affiliations, for such programs make the primary care percentages more difficult to achieve.

Indeed, medical schools now are under serious financial pressure to change the mix of graduate medical education programs with which they are affiliated. Consequently, the schools may be placed in a position of advocating changes in hospital policies which are not perceived by the hospital as being in either its own financial or programmatic best interest.

- State Manpower Plans

Several states have enacted state health manpower legislation designed to coordinate and allocate educational opportunities on a statewide basis. In general, the legislation requires new training programs and institutions to have state approval prior to development. Because graduate medical education programs have evolved to meet conditions and requirements in a local area, their distribution may differ substantially from that specified in state plans, especially if states make equitable geographic distribution a major consideration in developing a state plan. As a result, affiliations will have to be realized to meet state plan requirements: some institutions seeking to maintain or expand affiliations will have denied or reduced opportunities to do so; other institutions not desiring an educational emphasis and affiliation will be pushed to accept them.

- Joint Commission on the Accreditation of Hospitals

The hospital accreditation program of the Joint Commission on the Accreditation of Hospitals (JCAH) seeks to establish and recognize optimal standards for hospital operations. For non-teaching hospitals, JCAH accreditation is voluntary. While these hospitals lose their "deemed (to meet applicable standards) status" for the Medicare program if they are not JCAH accredited, alternative Medicare approval mechanisms exist. For teaching hospitals, JCAH accreditation is mandatory. It is a prerequisite to residency program approval from the Liaison Committee on Graduate Medical Education. Thus, hospitals seeking to establish affiliated residency programs must meet the structural, functional, staffing, and procedural requirements of the Commission. As JCAH incorporates increasingly strict life safety standards necessitating substantial expenditures, some hospitals may seek to drop their practice of obtaining JCAH accreditation. If these hospitals

are medical school affiliates, they will also probably seek to terminate the affiliation agreement. If they are unaffiliated, they will become unlikely affiliation prospects once unaccredited.

- Liaison Committee on Graduate Medical Education

The Liaison Committee on Graduate Medical Education (LCGME) was established to become the official accrediting organization for graduate medical education programs. As the LCGME reviews site visit reports on residency training programs to determine program compliance with approved residency training requirements, the committee identifies deficiencies. On some occasions, hospitals have had to enter into residency programs with other hospitals to meet residency program requirements. In other situations, hospitals may be required to establish services or acquire specific equipment to meet training requirements regardless of their necessity for patient care programs. In either situation, the hospital must either comply with the requirements, attempt to operate an unapproved residency program or halt its participation in the specific residency training program.

- Discussion

In summary, hospitals, while traditionally autonomous, are operating their patient care and medical education programs in an increasingly structured environment. This change in the influence of external parties is itself significant. The impact is heightened, however, by the realization that these external forces may often impose incompatible and conflicting controls and regulations - e.g. national health manpower legislation may encourage primary care training increases while reimbursement limitations deny necessary funds. For the hospital and medical school seeking to enter or maintain an affiliated relationship, the problem of external controls is not how to respond to any external force, it is how to design a program that is compatible with the constellation of external controls and regulations.

B. Regionalization of Patient Care

The planned, efficient and cost effective utilization of expensive patient care resources is a public policy objective long sought, but receiving substantially increased governmental attention in recent years. During the course of this project, the study group observed that the interlinking of a number of institutions for purposes of conducting programs in medical education is having a substantial influence in "rationalizing" the investment in expensive resources and programs. This appears to result from two independent but related forces at work: (1) the relationship between tertiary care programs and programs of graduate medical education, and (2) the influence of regional planning efforts which are gaining real power to determine where new investments can be made.

- Tertiary Care and GME

Tertiary care is the highly specialized, technology-intensive, sophisticated medical services now available in major medical centers. It is very expensive and is dependent upon highly trained professionals. There are two characteristics of tertiary care which make increasingly likely that it will be provided in institutions which have graduate medical education programs. The first is that those responsible for such care tend, in part because of their extensive training, to have an academic orientation. They are stimulated by the academic environment and are attracted to practice locations in which they have the opportunity to train others in their areas of special expertise. The second is the character of the care itself which requires twenty-four hour coverage and supervision. This kind of coverage, the immediate availability of highly trained physicians is rarely found in the absence of residents and fellows.

- Health Systems Agencies

As noted elsewhere, governmentally mandated agencies are becoming increasingly powerful influences in determining which capital expenditures will be made through their ability to determine which costs will be reimbursable. Since medical schools are dependent upon access to patient care for the conduct of their educational programs, and have traditionally had major involvement in tertiary care

programs, they have a substantial interest in the decisions of such agencies. Often this interest is recognized by the agencies themselves. Sometimes they include medical school officers on their decision-making bodies and sometimes they are responsive to medical school representations to the agency, regarding the needs of the educational programs. In one instance in our sample, approval of the purchase of CAT scanners was denied to applicant hospitals in order that a hospital associated with the medical school, not yet prepared to make the purchase would not be deprived of the opportunity when its own need arose. In other instances, support by the medical school of applications for expansion of community hospitals' facilities has been a positive factor in the agency's approval process.

- Role of the Medical School

The medical school interests in having good educational experiences and services each of adequate size complementary to other available services are completely compatible with the goals of regionalization to improve patient care and minimize costs. A large fraction of the medical school clinical faculty is engaged in tertiary care. This is a reflection of the specialization of the faculty and the needs of the education program. These needs affect not only the university-type hospitals, but in many cases, also the affiliated hospital. The medical school has influenced the patient care activities in community hospitals through the assistance it gives or withholds on recruitment of staff and on the assignment of residents. This was very evident at two of our sample institutions.

The primary motivations of medical schools appear to be the improvement in the education and the development of services complementary to those of the university hospital. The beneficial effects of the development of foci of expert care, of primary and secondary care for a given population, and of the reduction of costs are undoubtedly recognized as community services, even though they may be by-products of the other goals.

C. Affiliation Networks as Education and Patient Care Systems

Since World War II there has arisen from a series of separate, sometimes informal, departmental affiliations, a network of Medical School-Hospital relations. Accompanying this is an increased dependency of the Medical Schools on their affiliation for clinical settings, and of the hospitals on the Medical Schools for residents. The network increasingly functions as a single system in which changes in one relationship may affect the others.

The process has accelerated in the past eight years as a result of (1) the expansion of medical education; (2) the changes in graduate medical education; (3) the modifications of patient care activities which result from the medical school educational needs and the restrictions on the expansion of services because of regulations and financial restraints.

Attempts to manage the relationships in the system are most evident in three schools, including two of the newer schools. Two schools have recently been established in the midst of community hospitals without an extensive University hospital. The first has formalized a system utilizing a consortium approach which includes the Medical School among its members. A small University hospital, more recently opened, also is a member of the consortium. The second Medical School has established a council of hospitals without formal binding agreements as an attempt to minimize the problems and to improve communication. In a third, which has been established somewhat longer, the University hospital was never sufficient by itself and affiliations have played a prominent part in the school's activities for some time. The school has been aware of the need to manage this as a system and has had time to develop a solid management approach.

The other three schools are well established and have some long-standing affiliations. These have led to stability and have given some protection to the system. This protection is not complete and problems are especially apparent at one. The shift to a new University hospital (away from the city hospital) is in progress. This move is creating tensions between the school and its current

affiliates which feel that they may lose out in the change-over. This in turn is stimulating discussions directed toward the prospect of the hospitals' developing cooperative ties to strengthen their dealings with the university. At yet another school where the university hospital is small and affiliations are very dispersed, an office under the vice president of health affairs has been established to coordinate the affiliations relationships.

For most schools it would seem that the networks have already enough interaction to justify their being called a system, enough interdependencies for them to benefit by being managed as a system. To accomplish this, decision making must be at the institution level (as opposed to the departmental-hospital service level). The interdependencies are likely to increase further, thus increasing the need for better and more centralized policy development and coordination.

- Consortia

The consortium is an association of institutions to achieve common goals, and minimize destructive competition. In our study we had one example of a consortium of hospitals (with the medical schools as a participant as well), two of consortium-like associations of medical schools, and one consortium of remote hospitals which combined in an affiliation arrangement with the medical school.

It would be erroneous to conclude that all problems have been readily solved. In fact, the consortium is being carefully nurtured and protected. Insofar as agreement can be achieved in the consortium, it allows the institutions a large measure of self control in the developing regionalization. For the university administrative viewpoint, it moves some of the management problems to the consortium.

- Medical School Consortia

In two places we studied there were more than one medical school in the region. All of these medical schools have multiple affiliations. In both places, representatives of the universities (vice president or dean) have established regular meetings to exchange information about future plans and to resolve potential conflicts in advance.

Agreements have no binding effect, but understanding and communication have been achieved. Undoubtedly, this has affected the affiliation patterns for the two schools. Geographic localization has occured in one site but not the other. In the latter situation, programs are conducted by more than one school in several hospitals. Competition has not been eliminated, but problems from competition have been minimized.

D. Clinical Specialties with Special Characteristics

The characteristics of four specialties as they affect affiliations are particularly worthy of note, viz: pediatrics, obstetrics/gynecology, psychiatry, and family medicine. These specialties are generally part of the core of the undergraduate program and represent a substantial proportion of graduate training programs. They are major specialties, though not as dominant as internal medicine and surgery.

Many large metropolitan areas have children's hospitals which are generally supported as private institutions in which practicing physicians and faculty have been intermixed. This phenomenon tends to limit the size of the pediatric services which can be supported in university hospitals. The study group observed this situation in two of the six sites visited. In all, however, there was evidence of changes in or problems with the affiliations for pediatrics.

Three factors appear to be operative: fewer children, a lower fraction admitted to hospitals, and an ambivalence within pediatrics about its own future. The birth rate in the U.S. in the last 15 years has declined sharply. To this is coupled a remarkable reduction in the need to hospitalize patients, in part because of the reduction of severe infections, and in part because of a trend toward treating patients in the ambulatory setting whenever possible. Finally, there appears to be discrepancy between traditional inpatient focus to the training of pediatricians and the preventive medicine -- ambulatory care type of practice most pediatricians conduct. While this discrepancy is not new, the current emphasis on primary care has magnified its impact on the design of training programs.

Affiliations with pediatric hospitals or services reflect attempts to maintain both types of experiences. The affiliations are necessary to increase or maintain the number of available pediatric inpatients at a time when pediatric residencies are receiving increased emphasis and support because of their primary care role.

Obstetrics/gynecology has some of the same features, although the specialty is not widely accepted as a primary care discipline. "Women's" hospitals have been relatively common but have not themselves limited the size of university type hospitals substantially. The declining birth rate, however, has had a dramatic effect in this regard. An additional factor, though not encountered in our study, is the rise of midwivery. The discipline of obstetrics and gynecology appears to have adjusted by increasing the emphasis on gynecology away from obstetrics in residency programs. Medical students, however, have an undiminished need for training and experience in problems of reproductive biology and live deliveries. While one school was experiencing relatively severe difficulties in providing such experiences, the problems of this specialty did not appear to have had as broad an impact on affiliations as those of pediatrics.

Psychiatry has in the past frequently depended on affiliations since many general hospitals do not have psychiatry services adequate in size for effective training programs. The problem of affiliations is quite different in psychiatry from pediatrics and obstetrics/gynecology. Commonly, psychiatric units have not been as successful as they wish in recruiting staff physicians. The problem for the medical school is, therefore, how to assist the hospital or clinic and gain access to adequate numbers of patients without overburdening the students and faculty with heavy service commitments by accepting responsibility for staffing large psychiatry facilities. In some departments of psychiatry, undergraduate clerkships emphasize the physician's role in assisting patients and their families deal with the emotional problems which accompany medical problems. These departments devote relatively less attention to exposing students to classic examples of various kinds of psychoses.

Affiliations for family medicine tend to differ from those for other diciplines, especially in regard to graduate medical education as a result of educational object-

ives which emphasize ambulatory care and call for a variety of experiences in the more traditional specialties of internal medicine, pediatrics and obstetrics. The graduate programs involve early hospital-based experiences, which occupy most of the first year, followed by two years of primarily ambulatory care experiences with an emphasis on continuity of care. During the hospital-based portion of the programs, family medicine residents compete for access to patients(with the same clinical problems) with the more traditional specialties. Family medicine residents seek to acquire a greater variety of experiences but in less depth than residents in the other specialties. While the other specialties require more tertiary care experiences in their educational and training programs, family medicine education is better adapted to a site in which there is an emphasis on primary and secondary care. This often results in the location of family medicine programs at sites where the other specialties are either not present at all or are engaged at a low level of activity.

The emphasis on ambulatory care and continuity of care also influences the affiliation in several ways. First, the emphasis on continuity of care requires that the residents remain close to a single program site; they do not rotate through a variety of hospitals as residents in other specialties frequently do. Second, the traditional resident-undergraduate student relationship is disturbed in the ambulatory setting, since the patient time would be inordinately protracted where both are assigned to the same patient. This leads to separate affiliations for graduate medical education and undergraduate medical education in family medicine. These factors result in family practice residency programs with a high degree of individual autonomy, separated from each other and from programs in other specialties. Integrated programs of a character found in the other specialties where residents rotate through a variety of sites or institutions are rarely observed. The role of the medical school becomes one of providing support and coordination, with actual management of programs delegated to a local group of practitioners with those primarily responsible awarded faculty status. A network of family medicine programs, loosely linked through the activities of the school, was fully developed at one medical school and is developing at another. The initiation of family medicine programs has been difficult for many schools because of some of the factors described above. One

school in our sample has eschewed the whole question and has no family medicine activity whatsoever.

E. Clinical Teaching in the Ambulatory Setting

Traditionally, most clinical teaching has been conducted in the inpatient setting. This is because hospitalized patients present acute problems which can provide concentrated learning experiences for students. The continued availability of the patient and his record, the opportunity for repeated observations over a relatively short period, the more rapid course of an illness in an acute stage, the more pronounced response to therapeutic interventions, and the ready access to diagnostic and therapeutic services characteristic of the inpatient setting were all thought to contribute to making this the most effective and efficient learning environment.

More recently, popular dissatisfaction with the geographic and specialty distribution of physicians has led to a new emphasis on the teaching of primary care. Such teaching is most often undertaken with patients who are ambulatory and can be accomplished in physicians' offices or in clinics. These settings are considered by some as very desirable for teaching because of the advantage they have in acquainting the student with the kinds of problems he is likely to encounter in his own practice. This approach to teaching is also seen as a means of breaking down the dependence on high technology medical support facilities many physicians experience.

This setting has several characteristics which distinguish the experience from that gained from working with hospitalized patients: (1) patient management decisions must be made on a much smaller data base; (2) it does not mobilize the power of the institution to deal with the patient problems. Thus, a greater sophistication on the part of the students is required and new kinds of skills are learned.

Teaching in this setting creates marked inefficiencies in the provision of patient care. The teaching physician sees fewer patients during a given period than his non-teaching counterpart because of the need to provide

instruction to the student. The patient, in turn, is required to undergo additional procedures in order that the student be permitted to observe. Thus, the student presence represents both additional costs which must be absorbed, and inconvenience to the patient. In contrast to the inpatient setting where programs of graduate and undergraduate education complement each other, the situation in the ambulatory clinic makes these programs directly competitive with each other. Graduate and undergraduate students compete with each other for the time of the faculty and the patients, since the relative lack of structure to the organization of the care permits little differentiation in the degree of involvement.

Each of these factors contribute to the expense of teaching in the ambulatory setting: its limited educational value for many, the induced inefficiencies in the provisions of patient care and the competition between undergraduate and graduate programs. The expense of the program is particularly significant since ambulatory care itself is generally inadequately reimbursed. There are thus no slack resources which can be devoted to education. Most educational programs in this setting have been developed with specific subsidies.

The study group visited several non-hospital based clinics involved in educational programs. The predominate model visited was the family medicine center, thus, the comments in the previous section descriptive of the special characteristics of this specialty, are relevant to this discussion. The medical school department of family practice, in which physicians on the staff of the center hold faculty appointments, is the cognizant academic department. It works with the center to define the educational objectives, to monitor progress and to evaluate student performance. It is the link to the medical school and the channel through which medical school assistance flows. Administrative arrangements thus tend to be department rather than institution based.

A second type of free-standing outpatient facility examined in the course of the study was a community mental health center. At the time of study, the chairman of the department of psychiatry had decided to discontinue the utilization of this center in the undergraduate program. His rationale related to the impact of the center's

approach to patient care on the developing professional identity of the students involved. The center made a determined use of the team approach to dealing with the patients concerned. The involvement of nurses, psychologists, social workers, and neighborhood health workers tended to blur the role of the physician. The chairman concluded that while this blurring might prove to be an appropriate therapeutic approach, it disrupted the desired progress of the student in developing his professional identity.

In general, ambulatory care is provided in less highly structured settings than hospital care and the teaching provided tends as a consequence to shift to the preceptorial mode. The student-teacher relationship is less mediated by either organizational support or organizational constraints. The management problem is limited to simply putting the appropriately prepared student in contact with the appropriately qualified teacher and monitoring the results. There are few of the interorganizational complexities found in medical school-teaching hospital relationships. There are different kinds of cost and reimbursement problems which appear so far to be handled by way of specific subsidies.

F. The University Hospital's Needs and Objectives

In each of the medical school-affiliation systems in the study it was apparent that the needs of the university hospital influenced the medical school's approach to affiliation. In one system, reductions in the size of a new university hospital by reduction in state appropriation produced increased dependence on the system of affiliates. In another region the size and nature of practice (indigent) in the university hospital dictates terms of affiliation with private hospitals in the area. Change in this university hospital practice was producing change in affiliate relationships. Frequently the size of the university hospital -- with increased needs for graduate and undergraduate education -- has required that assistance be obtained through affiliations. In one instance, the university hospital was of sufficient size to make it virtually independent of affiliations -- so that when relationships were developed the terms were largely deter-

mined by the medical school. In this instance the relationships which developed with nearby affiliates were largely dictated by historical developments, tradition, and in two instances, by terms of endowments. In these situations, the programs of the university hospital were modified by the presence of external influences, in particular institutions, with which the medical school was affiliated.

The types of influence which may be found include the conditions required of the affiliated hospital to meet the standards set by medical school departments. When the university hospital is self-sufficient, the terms under which an affiliation is developed are likely to be more demanding on the new hospital. Where the size or programs of the university hospital make the educational program increasingly dependent on outside assistance, demands may have to be modified. In one instance, in spite of dependence on affiliations, the school was able to press for and obtain significant commitments from some affiliates. This was partly due to the coincidence of the goals of internal management of the hospitals with those of the medical school, and in part the result of potential competition from other well-qualified hospitals in the area for affiliation with the school.

G. Experience of Each Institution

The experience of each institution in medical education programs significantly influences the character of the relationship. A hospital whose administration and governing body have had no experience in affiliations may have unrealistic expectations of the outcome. But this is not always the case as is illustrated by forward-looking trustees who perceived that the road to excellence lay through establishment of a teaching program, and who subsequently discovered that the best means of becoming a teaching hospital was in developing a strong affiliation with a well-established medical school. In the course of evolving this choice, they rejected a new medical school with lack of experience, which was seeking an affiliation.

In some instances, both institutions have strong programs, tradition and experience. Relationships in

such instances tend to be stable, each institution not being threatened in any significant way by the other. This is not to say that in such situations there may not be frictions and tensions. But when they occur, they tend to be mitigated by the tradition and experience of each partner. Problems that would be major in other situations which are less stable create only minor tensions that resolve themselves.

In other situations, a new medical school may find itself in the presence of a major hospital with long experience and tradition. This poses difficult problems for the medical school leadership. The medical administrators and department heads, recruited from other institutions view themselves as the logical leaders. The hospital staff and administration see the medical school as an intrusion into a satisfactory or excellent program in graduate education. Only careful and sensitive management on both sides will resolve the potential conflict in expectations.

In at least one instance in the study, neither side in the affiliation had experience. This resulted in less than clear understanding of the responsibilities involved, and unrealistic expectations. The disillusion that can result from such instability may inhibit good relationships for long periods. Experience matched with experience tends to produce stable affiliations. An alternate to experience in actual affiliations can be combinations of sound leadership such as was found in some examples.

Consideration of institutional experience should include the experience of the medical staff. In new affiliations this experience will have occurred in other centers each with its own patterns and methods. Multiple types of experience may occur in the same hospital. One of these viewpoints must eventually dominate. Otherwise the relationship will be torn down by concepts of different methods and roles.

A feature of the experience of one medical school with long tradition is the influence it has in pattern of development of a new hospital. The new hospital emulated the school's home base hospital and became, in some respects, its competitor.

H. Allocation of Resources for Sponsored Programs

This issue area was considered by the study group as a possible area of interaction between medical schools and affiliated teaching hospitals which would illuminate the relationship and exemplify problems or techniques of inter-institutional coordination. Our expectation was not borne out by our findings; the allocation of resources for sponsored programs did not appear to present issues of significance in affiliation relationships.

"Sponsored programs" is a category which includes any program for which funds are received for a specified purpose, whether research, education or patient care. The need for clarity of program objectives and the requirement for advance specification of the commitments of each party in an agreement between the sponsoring agency and the performing institution tend to obviate the kind of problems between institutions caused by unclear expectations or poor communications. In addition, because the school's primacy in matters of education and research and the hospital's primacy in matters of patient care is generally well recognized and accepted, it is relatively easy to make initial determinations as to the appropriate performing agency. Where there is overlap in programmatic activity, the "center of gravity" of the project is subject to ease of determination and in any event is subject to prior negotiation. There are instances of competition between medical schools (or more precisely the university or home base hospital) and the affiliated hospital, but these are relatively rare in this sample of six networks.

A number of instances have been observed where an affiliated hospital will provide the facilities to carry out research in order to attract a faculty member to its staff. Funds to support the activity come from endowments and private sources. In this case, the allocation of resources is a result of the negotiations of individual physicians and the affiliated hospital.

The V.A. Hospital system is a special case where the practice of providing an environment for research and development is used to enhance the quality of medical care practiced. Here research and sponsored program funding is allocated by the central office of the V.A. system to

V.A. hospital staff in a peer review process. The use of the V.A. research funding is seen not only as a means of enhancing the hospital care but is an attractive way for young faculty to launch an investigative career and to develop outside resources. This is a major attraction for the frequently close affiliation relationships between medical schools and V.A. hospitals.

The process of decision making on allocation of sponsored program resources can best be characterized as an informal exchange between institutions which are implemented on a case by case basis by the individual professionals who arrange mutually beneficial arrangements. An example from one tertiary community hospital is the funding of a small laboratory (equipment, support personnel) out of a larger grant to the medical school. The project in the school gets the use of the space and a large volume of patients and the hospital can maintain the on-going services of the lab for needs that arise. The negotiations for establishing the arrangement were handled directly by the parties involved and did not require any formal institutional recognition.

A number of instances have been observed where an entire grant will be sponsored by the university and carried out at an affiliated hospital. The application for the grant is by a faculty member through normal university procedures. In these cases, the university administers the grant but because of unique patient population of the hospital the work is done in the affiliate. The hospital provides space and obtains the benefit of development in areas relevant to its clientele. Examples of this arrangement include a hypertension grant which is being carried out by a school in a city hospital wholly staffed by the medical school and an alcoholism grant to a university carried out in a V.A. hospital.

In more than one network of affiliations it has been observed that several of the affiliated hospitals have developed a reputation themselves for research activity and have been able to apply for grants independent of the medical school. In this situation although the school may have been instrumental in attracting the investigators, there is no interaction on an organizational basis to develop projects. The ability of affiliates in this situation to compete with the school in their specialized areas has made it difficult for the school to maintain or develop

its own programs in the same areas.

In conclusion the observations from the sample of medical education networks indicate that research is generally seen as a medical school role in the network so that the decision-making concerning the management of these activities is most often handled through medical school channels. Thus, with the exception of home base and "home base extender" hospitals, there appears very limited research activity in affiliated hospitals. Most of that is managed on an individual professional level as mutually beneficial arrangements can be established. The role of management in this process is to facilitate communication and information among the faculty. Resource allocation is either use of space, facilities and support staff, or the use of time and creativity of the investigator. The latter is probably the most important and can be facilitated by management by creating a milieu supportive of investigation. It can be noted that the V.A. hospital is often an attractive location for affiliation because of the scientific milieu that is supported.

The management of the fiscal aspects (space, facilities, support staff) of R & D activity is an administrative role involving institutional officers. This activity has potential impact on the relations between institutions, but the impact is small in comparison to the total relationship because of the generally small amount of actual interaction on this aspect of the relationship, even where the two organizations both have large amounts of sponsored programs. Nevertheless, it has been observed that resource allocation decisions depend on the source of funds. The medical school is often in a position to attract funding more readily than an affiliated hospital, so that decisions are controlled there. Some hospitals are able to attract funds on their own in specialized areas and compete with the school for these funds. Competition of this sort can inhibit other aspects of the relationship so it is observed that the school will often not develop its own program in the specialty but will affiliate to support the activity. Hospitals may have fiscal resources of their own that they have discretion to contribute to R & D activity. It has been observed that on a limited basis funds are used to attract competent physicians who can mount a program of specialized teaching, research and patient care. The V.A. system is the institution with most significant amount of resources to allocate to sponsored programs. This is an

important aspect in the generally close relationships with medical schools.

I. Affiliation Systems in Transition

The transitional state of affiliation systems was recognized at the outset of the study. Some of the factors which will affect them in the future are:

1. Consolidation and rearrangements following the recent rapid expansion of undergraduate medical education, not yet completed in some schools.

2. The development of enough positions for graduate medical education of a type suitable to the desires of the students, the needs of the country and of a satisfactory quality.

3. Progressive regionalization of health care, with the medical schools having a larger role than they may have anticipated or intended.

4. Changes in cost containment regulations and reimbursement practices of the private payors and the government.

5. Recognition of the cost of ambulatory medicine for practice and for education.

The study revealed that the institutions have shown themselves to be adaptable and flexible. So long as they have had adequate resources, sufficient time and appropriate support, they have been able to adapt to changing needs and conditions.

CHAPTER V--SUMMARY OBSERVATIONS AND CONCLUSIONS

As a result of this review of the dynamics of affiliation relationships in a sample of six networks, it is possible to make a series of general observations and conclusions. While there may be situations with facts and circumstances at variance with those examined to which these conclusions would not apply, the following seem to represent a reasonable set of "lessons learned".

1. The increase in the number of medical students resulting from new medical schools and expansion of existing schools, together with changing curricular objectives emphasizing primary care, ambulatory care, community hospital experience and a greater range of elective experiences, has created a need for clinical education in hospitals with little or no experience or tradition in medical education.

2. Affiliations between medical schools and hospitals operate in a variety of modes depending upon the perceptions of the needs of each institution. These relationships may be classified on the basis of a series of factors primarily related to the number and scope of educational programs and the medical staff-faculty organizational relations.

3. The following hospital objectives are seen as being served by its involvement in medical education programs:

   -- improving its patient care;

   -- responding to community needs;

   -- improving its reputation, prestige and competitive position.

   The accomplishment of these objectives through the affiliation relates in large measure to the presence and strength of graduate medical education programs which:

   -- are increasingly being held to more rigorous academic standards, making the assistance and resources available through affiliation with a medical school desirable and in some cases essential to the continuance of the program;

-- are highly desired by the hospital medical staffs for both the challenge they offer and the convenience they represent;

-- are highly correlated with a hospital's ability to provide tertiary level services.

4. Hospitals incur certain costs in affiliating with medical schools:

   -- more complexity in management of their affairs;

   -- additional influences on determinations of their missions;

   -- the potential for "town-gown" conflicts among their medical staff members;

   -- concern of some patients over being a "teaching patient";

   -- financial costs.

5. In addition to seeking hospital affiliations to provide access to patients in adequate numbers and with the appropriate mix of problems for their educational programs, medical schools are also interested in demonstrating responsiveness to public expectations and, in some cases, in gaining a source of patient referrals to the university or "home base" hospital, through their relations with other hospitals.

6. There are costs or disadvantages to a medical school conducting its educational programs in an affiliated as opposed to its "home base" hospital:

   -- attenuation of faculty influence over the educational program;

   -- more complexity in program management;

   -- dependence on another organization;

   -- complications in faculty development;

   -- financial costs.

7. The most significant or intense affiliation for both

medical student and hospital is the one which includes required clerkship experiences for medical students. These clerkships require actual participation by the student in the care of patients under supervision. They require a substantial commitment to education on the part of the hospital and a commitment on the part of the medical school to the health and integrity of the hospital.

8. Educational programs in various disciplines or specialties (e.g. medicine and surgery) complement one another just as the specialties complement each other in the care of patients. Thus, required clerkships for undergraduate students and the basic rotation for graduate students are generally conducted in hospitals with a full range of educational programs paralleling the scope of their major clinical services.

   This facilitates an emphasis on the continuity of patient care in the educational programs and assists in imparting a more comprehensive understanding of the clinical problems. Preceptorship and many electives are successfully conducted in the absence of this breadth of programs.

9. The overwhelming preponderance of undergraduate clinical teaching in inpatient settings, particularly in the "heavy services" (medicine, surgery, pediatrics, OB/Gyn, radiology and pathology) takes place in the presence of house officers. Although the house officers have the primary responsibility for neither the education of medical students nor the provision of patient care services, they are intimately involved in these activities and they perform an articulating function between attending physician and patient, and between faculty and student. Thus, their presence conditions the exchanges between medical school and hospital. An understanding of the dynamics of graduate medical education programs -- who appoints residents, who they report to, who they are loyal to, who sets up and responds to their expectations -- will provide an understanding of much of the dynamics of the relationship between medical school and hospital.

10. Needs for affiliations are often identified at the department level and a substantial responsibility for effective operation of affiliations rests with the medical school department head and hospital service

chief. However, successful affiliations require the support of the administrative officials and governing bodies of each institution.

11. There is a discernable trend in the group studied toward replacing department-to-hospital service affiliations with institution-wide, medical school-to-hospital agreements. The latter facilitate the development and maintenance of a broader range of educational programs. They also have broader organizational support and tend to be more stable.

12. While the capacity and character of the medical school home base hospital generally determines the need for affiliations, it is also frequently the determinant of the size of the total educational program, at both the undergraduate and graduate level. This is because, in many instances, departmental educational policy requires that a percentage of the students' experience (usually half) be obtained in the home-based hospital service under the supervision and control of home based full-time faculty in order to monitor the quality and integrity of the educational experience.

13. The traditions of the institutions involved influence the tenor of the affiliation relationship. For example, long standing agreements and an established pattern of behavior at the governance and administrative levels tends to enable the relationship to withstand what in other circumstances might prove to be severely threatening situations. A second form of tradition which produces strong positive influence is found in hospitals in which the predominating group of the medical staff is graduated from the medical school or the graduate educational programs sponsored by the medical school. Strong loyalties maintain the relationship even in the presence of geographic separation or other adverse influences. Conversely, a medical staff with a tradition of independence may find the adjustments required for their participation in educational programs difficult and disruptive.

14. The institutional history and self-image of the institutions in an affiliation affect the dynamics of the relationship. For example, in the development of a new affiliation, an institution with greater

experience, particularly in the conduct of well regarded graduate medical education programs, will tend to exercise disproportionate influence in the relationship. Thus, there are entirely different dynamics to be expected in negotiations involving: 1) an established medical school and a hospital with no experience in medical education; 2) a new medical school and a hospital with experience, 3) a new school and a hospital having no previous experience.

15. The introduction of medical education programs changes the character of a hospital. Few decisions relating to patient care programs can be made without reference to their impact on the educational programs; few decisions relating to the fundamental character of the educational experience provided can be made without reference to their impact on patient care.

16. Relations between a hospital and the community which it serves are an important factor in the establishment and continuance of affiliations. While community expectations are transmitted to the hospital in a variety of ways, one of the most significant is through the members of the hospital governing board.

17. Affiliations may exist with only tacit support from governing trustees, but the most effective and stable affiliations enjoy their strong support and understanding.

18. The attending staffs of affiliated hospitals are an important factor in the vitality and stability of the affiliation. The hospital is dependent upon these physicians to admit patients and to maintain its census. The medical school requires at least their tacit approval for the presence of faculty, residents and students. In addition, the school often looks to a portion of them to provide volunteer supervision of the clinical clerkships.

19. External regulations and funding policies directed to health care necessarily impact clinical education and influence the character of affiliations.

20. External pressures -- community expectations, governmental regulation, professional standards-setting agencies -- may stimulate or effectively require affiliations where one or more of the parties are reluctant to join in the agreement. This may result in very difficult operational problems and requires very sensitive management and good will to produce a mutually satisfactory relationship.

21. Limited needs for some patient care services together with limited resources to support them, frequently require that allocation decisions be made. Governmental initiatives are accelerating and formalizing this process. Medical schools and their faculties are vitally interested in such decisions because of their impact on the educational program and the patterns of practice of the faculty. Because of the relationship between tertiary care services and graduate medical education, the medical faculty's role may be quite substantial. These factors indicate that affiliation networks are taking on the character of systems for both education and patient care.

22. Various strategies for managing the system were noted: consortia, allocation of territory among schools, agreements to refrain from intruding where another school has already established a foothold, periodic meetings among school executives to discuss problems, and a strategically sensitive management of the network by the school in a series of one-on-one negotiations.

23. Hospitals, like most organizations, seek to maintain and enhance their own institutional identity and freedom of action. Thus, they will tend to oppose actions which are perceived to place their autonomy in jeopardy. A medical school which assigns a "second class" role to a hospital inhibits the potential for a healthy relationship.

24. Demographic changes in communities which home base hospitals serve may influence the quality of educational experience. Changes in obstetrical, pediatric or psychiatric populations are readily identified. More subtle changes may also be significant. Because the

availability of appropriate affiliations is important in design of curriculum, long range planning to assure this is often required.

25. For medical school-teaching hospital affiliations to work:

    -- both sides must profit and each needs to be as concerned about the satisfaction of the other party as it is with its own;

    -- both sides must approach the relationship as a continuing commitment, not a mere temporary convenience;

    -- the gain must be explicit and perceptible, each party should be able to justify its involvement in practical terms as improving its ability to meet its mission;

    -- the relationship must not be perceived as threatening to the majority group of the hospital medical staff or faculty;

    -- the relationship must have constant monitoring and attending; this responsibility should be reflected in the formal organizational structure of each institution and should reside in the chief executive officer or someone specifically designated by him; the range of concerns of the chief executive may make delegates the preferred approach.

As with all studies which attempt to represent a changing scene, these observations may have a time-limited utility. It is hoped, however, that for the near future they represent a useful set of working hypotheses to those concerned about managing relationships between medical schools and hospitals and other clinical facilities.

APPENDIX I -- STUDY METHOD

APPENDIX I -- STUDY METHOD

Approach

The study method consisted of two parts, each containing a number of steps, and was with the full participation and assistance of the institutions involved. In order to facilitate candor, each respondent and each institution was assured that the names of specific institutions and individuals would be held in confidence in any publication of the findings of the study.

Site Selection

There are 114 medical schools and over 1100 hospitals with education programs in this country. Because of the breadth and complexity of the subject, the study concentrated on an examination of six medical schools and their affiliated teaching hospitals and clinical facilities.

Sample selection from a wide variety of "types" of medical schools was approached first by using a clustering methodology developed at AAMC[1] to group schools along the following dimensions: 1) Total number of medical students (M.D. and residents); 2) increase in M.D. student enrollment (1964-1974); 3) number of affiliations; 4) increase in affiliations (1964-1974); 5) age of school; 6) ownership of school (public or private); 7) number of hospitals owned or operated by the medical school; 8) % of total expenditures from sponsored research; 9) volunteer faculty as % of total faculty; 10) % of full-time faculty from the primary care specialties; 11) SMSA population per medical student. The clustering procedure yielded four groups of schools, which upon inspection, appear to be a reasonable division of the population of schools.[2]

Study sites were selected using the following criteria:

1) At least one representative from each major cluster;

[1] Nunn, R. and Lain, L. "Classification of Medical Institutions", AAMC, December 1975.

[2] The "dendrogram" output from the cluster program with the major grouping marked appropriately appears on p. 4.

2) Geographical distribution (at least one from each region of the country);
3) Absence of known critical operational problems which might be exacerbated by such a study;
4) Estimated cooperativeness and interest of the institutions in a study of this kind;
5) More than 2 affiliations.

In addition, other variables of interest to the study propositions were used to help guide specific choices. A distribution on the following variables was sought for the schools selected:

1) Larger (more than 15) vs. smaller (less than 10) number of affiliations;
2) Public vs. private schools;
3) Owned teaching hospital vs. no owned teaching hospital;
4) New vs. established schools;
5) Rural vs. urban schools.

Other criteria which were accommodated were:

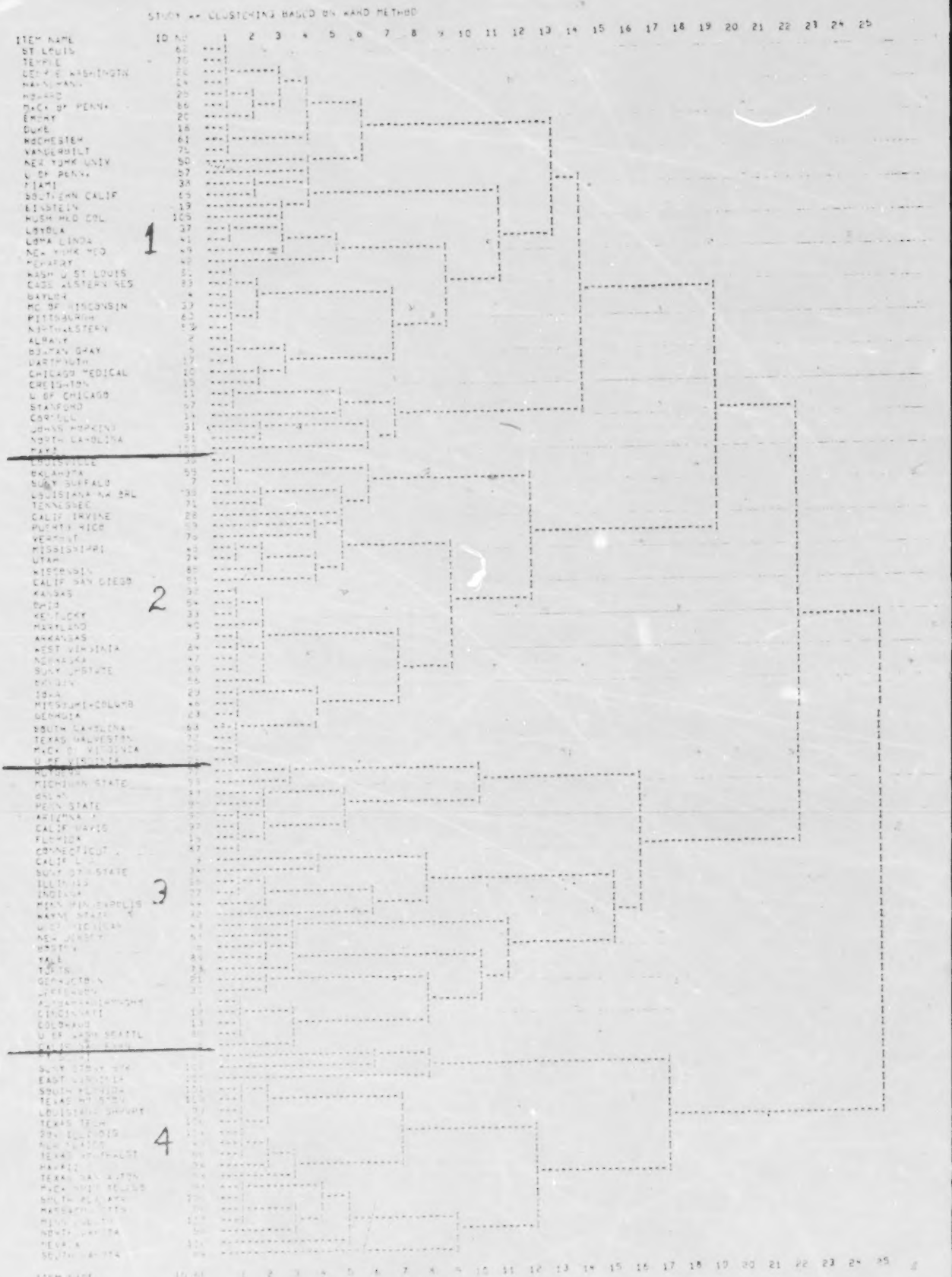
1) At least one school from an area with other medical schools in close proximity;
2) At least one school with a consortium for planning among the institutions in the network;
3) At least one school not a part of a university;
4) At least one school with remote campus teaching programs.

Dendrogram of Medical School Clusters

On the following page is a "dendrogram" which describes the sequence in which the 110 medical schools in the sample are merged into clusters based on their level of similarity. The numbers across the top of the page are the merge steps at which pairs and groups of medical schools are clustered. The clustering is based on a criterion of minimization of within group sum of square Euclidian distance on the space defined by the 11 study variables, while maximizing between group distance. Therefore, the vertical dashed lines designate the merging of groups to the left of the line at that step. The horizontal lines measure the distance a subgroup, which has been formed from a previous line to the left, has to go to merge with the next subgroup.

Ultimately in this hierarchical technique all groups merge at step 25. There are four large groups indicated on the chart that merge between steps 12 and 17. Each of these has about 3 subgroups that all merge together between steps 5 and 11. The four large groups noted on the chart are groups from which the sites were selected to get a sample representative of the whole population of medical schools.

Table 4: Dendrogram of Medical School Clusters



Sampling of Institutions, Issues and Respondents: An Overview

The relevant detail concerning the management of relationships between medical schools and hospitals is brought into focus by iterative sampling of important aspects of the relationships based on information from previous steps. In Part I, the scope of the network was narrowed from all hospitals to those with the more significant contribution to medical education. Greater detail was sought for the smaller sample of more involved affiliates. Details of the logic and process of data gathering are described in the next section on data gathering.

In Part II, further sampling was done to focus interviewing on a more limited set of specific interactions that may occur in the relationships. A sample of up to 6 affiliates was chosen to enable all interviews to be held in a three or four day period. Respondents were selected to represent major departments involved in the relationship from the medical school, chiefs of the corresponding hospital services, and the administration of each institution. Finally a set of six decision areas covering a broad range of possible activities for both parties to the relationship were selected as a basis for comparison of interactions. In the interviews other issue areas particularly pertinent or problematic in the relationship were allowed to emerge.

Although the financial cost of relationships are undoubtedly very important to both parties, it is one issue the study group did not specifically address in detail. Financial analysis was not attempted because other recent studies have examined the matter and because the format, skills and resources to do such an analysis differ from those available for this study. Financial costs are addressed only to the degree that they have taken on importance and meaning to the parties in the relationship in comparison to other non-economic factors affecting the achievement of objectives for each.

Data Gathering Process

Liaison Representative

The first step following the initial contact with the medical schools was the appointment by the medical school dean of a liaison representative to coordinate the study at that site. This person was someone in the medical school administration with a substantial overview of affiliation relationships. This person has taken responsibility for background data gathering efforts, for help in orientation to the site, for information and assistance to plan and carry out site visit activities, and for verification of information and follow-up to the sites.

Part I

In the study design, data gathering was divided into two parts with data from early steps used to focus questions for later steps. The first step was to develop background information sufficient to describe the affiliation network for each of the six sites in terms of the extent of educational programs and resources. This provided a general orientation to the sites and began to illuminate the exchanges that might occur in relationships. Part I data, therefore, helped focus the questions for Part II site visits.

After initial contacts were made and the liaison representative was appointed, Part I, which included two data gathering rounds was begun. Round 1 included: a) an identification of all institutions affiliated with the medical school for educational purposes; b) a specification of the extent of the commitment to undergraduate medical education (number of clerkships in each department for the affiliated institutions); c) a specification of the extent of and degree of medical school relation to graduate medical education programs (number and type of residency programs in the affiliated institutions); d) a request for relevant published documents describing the school or its affiliations.

From the information in Round 1, a smaller number of affiliated institutions was identified for each of the six medical schools as being a significant part of their medical education network. The criteria were: five full-year equivalent students (FYES) clerkships, or an affiliated residency program. For these institutions, detailed information has been gathered in three broad areas:
1) the educational program activity of each affiliate;
2) the extent of resources to carry out programs in each affiliate (money, faculty/staff, patients/beds); and
3) the administrative and governance connections between institutions (committees, joint appointments, governing boards).

Part II

Part II data gathering included three major steps. The first step involved designing instruments for data gathering, and selecting and scheduling interviews in a sample of affiliated institutions. The second step was the testing and the actual execution of the site visit methodology. The third step involved writing the reports of visits for each site and submitting them to the schools for review and comment.

The approach in the Part II data gathering process was to focus on a sample of institutional relationships in the network of organizations affiliated with the medical school for clinical education. In order to take a managerial perspective of the relationships, a sample of decision-making processes was used. By taking a sample, each decision can be examined with enough contextual detail to understand the nature of the interactions in the relationships. Thus, the sample of decisions taken together can be used to characterize the affiliation relationship and to characterize the management of the network.

Site visit planning involved determining the appropriate sample of the affiliates and respondents, scheduling dates and times, and distributing preliminary materials to participants in the study. Site visit planning was accomplished with the cooperation and assistance of the school liaison representative.

From the descriptive information on the entire network provided in Part I, a sample of up to six affiliated institutions was selected for more detailed investigation. Criteria for selection included variation on the following dimensions: 1) size and extent of relationship (numbers of students, residents and faculty); 2) complexity of the relationship (number of different specialties involved); 3) level of education (graduate, undergraduate); 4) type of care provided (primary, secondary, tertiary); 5) ownership characteristics (private, church, state, municipal, military, V.A.); 6) age of the relationship; and 7) location (urban, suburban, rural, proximity to school). In some schools the number of affiliations is small enough so that it was possible to visit each of them.

Selection of Issues and Respondents

The investigation of the management of affiliation relationships focused on specific issues important to both institutions in the relationship. Six decision issues chosen to represent varying levels of responsibility, varying areas of administrative and program activity in each organization and varying location of responsibility between organizations were selected as a base of information to compare different sites: 1) assignment of medical students to clerkships; 2) assignment of residents by specialty; 3) initiation of new patient care programs; 4) selection of the education coordinator in the affiliated hospital; 5) allocation of resources for sponsored programs and 6) participation of volunteer faculty in medical school affairs. In addition, other issues named as especially important to a particular institution were included to enhance the utility of the study and to capture the range of issues relevant to the relationship.

A number of officials from each institution were contacted as respondents for interviews. From the school, the dean and appropriate dean's office staff who deal with affiliations were interviewed. In addition, chairmen of the departments of Medicine, Surgery, Family Medicine and at least one and generally each of the following departments -- OB/Gyn, Pediatrics, Psychiatry -- were included. The hospital counterparts of these individuals, the executive director (and appropriate staff), the director of medical education, and the appropriate service chiefs were interviewed.

Interviews

Data gathered in Part II were obtained by semi-structured interviews during site visits. In addition, copies of memos, reports and conference schedules were obtained where they were relevant to issues being discussed in the interview.

Interview questions inquired about various aspects of the decision-making for the specific issue about which the respondent is informed. Questions included:

Who is involved?
What roles do each take?
What is at stake (goals and motivation for different groups and organizations)?
What power and influence does each have?
What information and knowledge is utilized?
What processes of communication and conflict resolution are used?
What are outcomes?
Do outcomes meet objectives and expectations of involved parties?
How satisfactory are processes, outcomes, cost of arriving at solutions, timeliness of solutions?

Interviews also explored the context of the relationship from those involved. This established the framework in which operational decisions are made.

Site Visits

The liaison representative scheduled the site visit interviews to assure coordination of our efforts and maximum utilization of the four day site visit. The plan was to get an overview from the medical school, then visit 4-6 affiliated institutions and follow-up with the medical school. The contacts at each site distributed introductory materials to all scheduled respondents.

In preparation of the site visit, an Interviewer's Guide Book was developed for each site. This book contains summaries of information gathered in Part I of the study and the interview question guide. Included in the data is

the summary of the distribution and size of education programs (graduate medical education and undergraduate medical education) throughout the network of affiliates, and a summary of the affiliation agreements obtained from the schools. Clauses pertaining to the six decision issue areas were excerpted from each affiliation agreement. In addition, information from documents received related to the objectives of the study were extracted and summarized for use by the interviewer. Interview question guides have been filled in with information from the affiliation agreements which related to specific issues and with information from Round 2 of Part I as it relates to specific issues.

Two or three of the study group members were in attendance on each of the site visits. Included in each site visit was one senior medical educator who was experienced with site visit activities for other purposes and therefore had some familiarity with many of the situations encountered. This person took the role of principal interviewer during the visit. Also included in the team was a research associate trained in management and social science who took the role of recorder in the interviews. He supplemented the principal interviewer to assure that coverage of protocol questions was achieved. On two of the visits, other study group members, both experienced in medical education affairs, participated to enable them to contribute fully to the subsequent analysis of the observations and data.

For each visit one of the site visit team members took responsibility for the compilation of the data into a report which was mailed back to the school for comment and verification of the accuracy of information. Because of pledges of confidentiality, these site reports have not been included as a part of this report. They are available in the files of the project and serve as the basis for our findings.

APPENDIX II -- SIX AFFILIATION NETWORKS

-- DESCRIPTIVE DATA --

APPENDIX IIa -- NETWORK A

CHART I-A

NETWORK A
SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
A1 University Hospital	M	1(15)	3(6)	1(8)	1(15.5)	1(13)	1	4(8.5)	1(3)	1(1)	1(1)	1(3)	16(74)
	N												
	R					2.4						3.3	5.7
	E					0.2						1.1	1.3
A2 Veterans Administration Hospital	M	1(18)	4(4)					4(6)		1(1)	1(1)		12(30)
	N						1(6)						1(6)
	R	4.9					0.6					1.6	7.1
	E	0.3	0.4										0.7
A3 Private Tertiary Hospital	M		1(1)	1(4)	1(14)	1(3)		5(8)					9(30)
	N	1(46)					1(27)	1(13)	1(10)	1(7)	1(10)		6(113)
	R	2.4			3.0	1.2	3.6		2.1			4.8	17.1
	E	0.9	6.2				0.9	0.8		1.2	0.6	0.7	11.3
A4 Church Owned Hospital	M		2(1)	1(4)	1(7.5)			2(4)				1	7(16.5)
	N	1(32)	1(3)				1(16)		1(9)		1(3)		5(63)
	R	4.3			2.2	0.8	2.6		1.8			4.2	15.9
	E	0.6	3.1								0.4	0.1	4.2
A5 Private Community Hospital	M		1		1(6)	1(1)		2(1)	1(6)				7(14)
	N	1(14)					1(19)						2(33)
	R				0.8	1.2	3		3.2			4.8	13
	E		0.7								0.4		1.1
A6 Private Community Hospital	M				1(7)	1					1(1)		3(8)
	N	1(21)							1(7.5)				2(28.5)
	R						1.2		1.7			2.6	5.5
	E									1.1	0.5		1.6
A15 City Ambulatory Clinic	M				1				1				2
	N												0
	R				2.1								2.1
	E												0

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs(# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART I-A Cont'd

NETWORK A

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
A7 [illegible] Children's Hospital	M				1(5)			3(2)					4(7)
	N												0
	R											0.4	0.4
	E												0.4
A8 Private Psychiatric Hospital	M												0
	N					1(24)							1(24)
	R					0.8							0.8
	E												0
A9 Private Home for the Aged	M												0
	N												0
	R											0.4	0.4
	E		0.1										0.1
A10 Private Community Hospital	M										1	1	2 (0)
	N												0
	R											1	1
	E										0.9		0.9
A11 Private Community Hospital	M											1(.5)	1(.5)
	N			1(17)									1(17)
	R											1	1
	E										0.3		0.3
A12 Private Community Hospital (remote)	M												0
	N	1(26)			1(8)		1(12)		1(3)			1(2)	5(51)
	R				2.1							1.7	3.8
	E	0.2											0.2
A13 Private Community Hospital (remote)	M												0
	N	1(20)			1		1(11)				1(4)		1 (35)
	R											0.8	0.8
	E	0.3											0.3

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs(# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART II-A

Distribution of
Undergraduate Medical Education (UME)
and Resources
in Network A

Institution	#FYES*	#Residents**	Total #Residents	#Teaching Beds***	Tota #Bed
A1 University Hospital	7	16	74	204	20
A2 Veterans Administration Hospital	7.8	34	36	151	19
A3 Private Tertiary Hospital	28.4	139	143	1011	1,01
A4 Church Owned Hospital	19.3	75.5	79.5	746	74
A5 Private Community Hospital	14.1	47	47	389	38
A6 Private Community Hospital	7.1	8.5	36.5	272	32
A7 Crippled Children's Hospital	.8	5	7	NI	12
A8 Private Psychiatric Hospital	.8	24	24	NI	42
A9 Private Home for the Aged	.5	0	0	NA	N
A10 Private Community Hospital	1.9	0	0	0	24
A11 Private Community Hospital	1.3	.5	17.5	0	38
A12 Private Community Hospital	4	34	51	336	48
A13 Private Community Hospital	1.1	20	35	NI	42
A15 City Ambulatory Clinic	2.1	0	0	NA	N

* Full Year Equivalent Students
** Residents in Specialties with UME
*** Beds on Services with UME
NI - no information
NA - not applicable

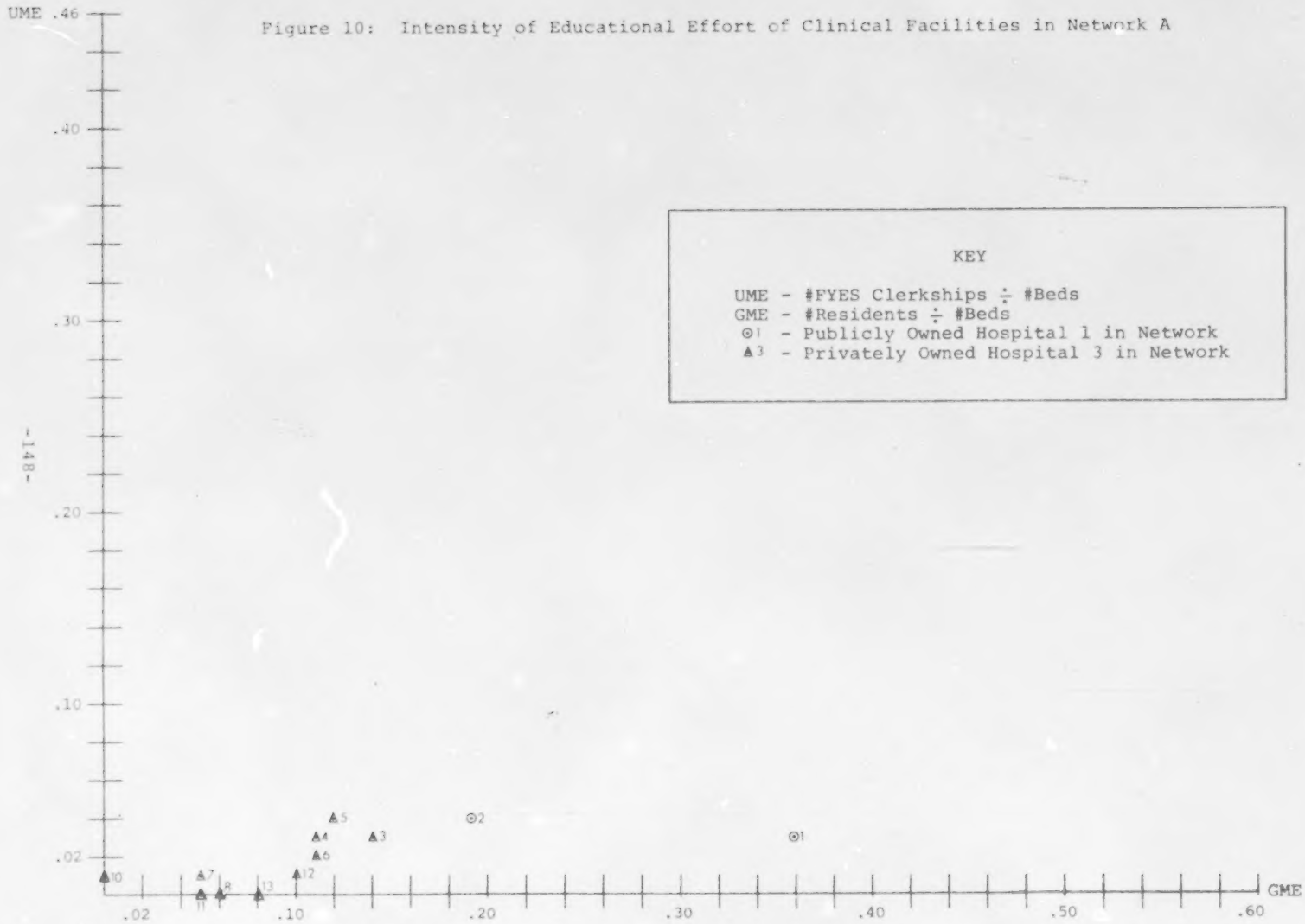
CHART III-A

Distribution of
Graduate Medical Education (GME)
and Resources
in Network A

Institution	#Residents Integrated Programs *	#Residents Affiliated Programs**	#Residents All Programs	Teaching Beds***	Total Beds
A1 University Hospital	74	0	74	204	204
A2 Veterans Administration Hospital	30	6	36	151	190
A3 Private Tertiary Hospital	30	93	143	1,011	1,011
A4 Church Owned Hospital	16.5	60	79.5	598	746
A5 Private Community Hospital	14	33	47	389	389
A6 Private Community Hospital	8	28.5	36.5	321	321
A7 Crippled Children's Hospital	7	0	7	128	128
A8 Private Psychiatric Hospital	0	0	24	0	425
A11 Private Community Hospital	.5	17	17.5	382	382
A12 Private Community Hospital	0	0	51	0	486
A13 Private Community Hospital	0	0	35	0	427

* Medical School Sponsored Programs
** Medical School Assisted Programs
*** Beds on Services with GME Affiliated or Integrated
NI - no information
NA - not applicable

Figure 10: Intensity of Educational Effort of Clinical Facilities in Network A



APPENDIX IIb -- NETWORK B

CHART I-B

NETWORK B

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
B1 University Hospital	M	1(32)	1(5)		2(17)	1(12)	1(3)	7(23)	1(7)	3(14)	1(11)	1(3)	19(137)
	N												0
	R	25.75	4		9.68	7.25	7.87	8	7.12	12.25		4.18	86.1
	E	10	0.9		2.5	1	2	3		1	1	0.2	21.6
B2 Veterans Administration Hospital	M	1(2)	1(10)			1(9)	1(4)	7(13)					11(38)
	N	2(81)					1(4)	3(8)			1(8)		7(101)
	R	9	7.4			11.2	11.8	10.9					50.3
	E	2.5						0.5					3
B3 City Hospital	M						1(8)	4(13)	1(5)				6(26)
	N	2(72)	1(5)		1(23)		1(15)	3(15)	1(7)	1(7)	1(4)		11(146)
	R	13					6	1.6	9.3				29.9
	E	1.5							0.5				2
B4 Military Hospital	M												0
	N	1(31)	11(48)		1(11)	1(25)	1(19)	8(60)	1(13)	1(17)	1(12)		26(262)
	R	8			8.6	4	5	2					27.6
	E	5											5
B5 Military Hospital	M												0
	N	1(26)	2(18)		1(9)	1(16)	1(17)	7(52)	1(12)	3(16)	1(12)		18(178)
	R		5.6		2	6			4.5				18.1
	E	0.4	0.1						0.1				0.6
B6 Private Community Hospital	M	1(8)			1(4)		1(5)	2(5)	1(5)				6(23)
	N												0
	R	7.9			5		7.5	1.3	3			5.75	30.45
	E	2							0.4				2.4
B7 Community-County Hospital	M	1(17)			1(15)		1(8)	2(2)					5(42)
	N			1(18)				1(2)	1(6)		1(4)		4(30)
	R	12.6			6.25		6.8					2.3	27.95
	E	2											2

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs(# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART I-B Cont'd.

NETWORK B

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
B8 Private Community Hospital	M					1	1(4)	4(8)	1(2)				7(14)
	N												0
	R					3.1	5.1	1.9	1.75				11.85
	E							2.25					2.25
B9 Private Community Hospital	M						1(1)						1(1)
	N												0
	R												0
	E												0
B10 City Mental Health Day Hospital	M					1(7)							1(7)
	N												0
	R					3.75							3.75
	E												0
B11 Federal Psychiatric Hospital	M					1(30)							1(30)
	N												0
	R					4.25							4.25
	E												0
B12 Private Psychiatric Home	M					1(1)							1(1)
	N												0
	R					2							2
	E												0
B13 Private OB Hospital	M				Fellows								0
	N				1				1				2
	R				2								2
	E												0
B14 Private Tertiary Hospital	M	1(72)			Fellows		1(55)	2(21)	1(12)		1(10)		0
	N												5(170)
	R				2								2
	E												0

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs(# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART II-B
Distribution of
Undergraduate Medical Education (UME)
and Resources
in Network B

Institution	#FYES*	#Residents**	Total #Residents	#Teaching Beds***	Total #Beds
B1 University Hospital	107.7	137	137	370	370
B2 V.A. Hospital	53.3	131	139	618	708
B3 City Hospital	31.9	69	172	335	521
B4 Military Hospital	32.6	194	262	867	963
B5 Military Hospital	18.7	81	178	337	729
B6 Private Community Hospital	32.85	23	23	261	261
B7 Community-County Hospital	29.95	42	72	296	616
B8 Private Community Hospital	14.1	14	14	168	397
B10 City Mental Health Center	3.75	7	7	NA	NA
B11 Federal Psychiatric Hospital	4.25	30	30	NI	3450
B12 Psychiatric Home	2.0	1	1	NI	NI
B13 Private OB Hospital	2.0	fellows	NI	NI	154
B14 Private Tertiary Hospital	2.0	fellows	170	NI	871

* Full Year Equivalent Students
** Residents in Specialties with UME
*** Beds on Services with UME
NI-no information
NA-not applicable

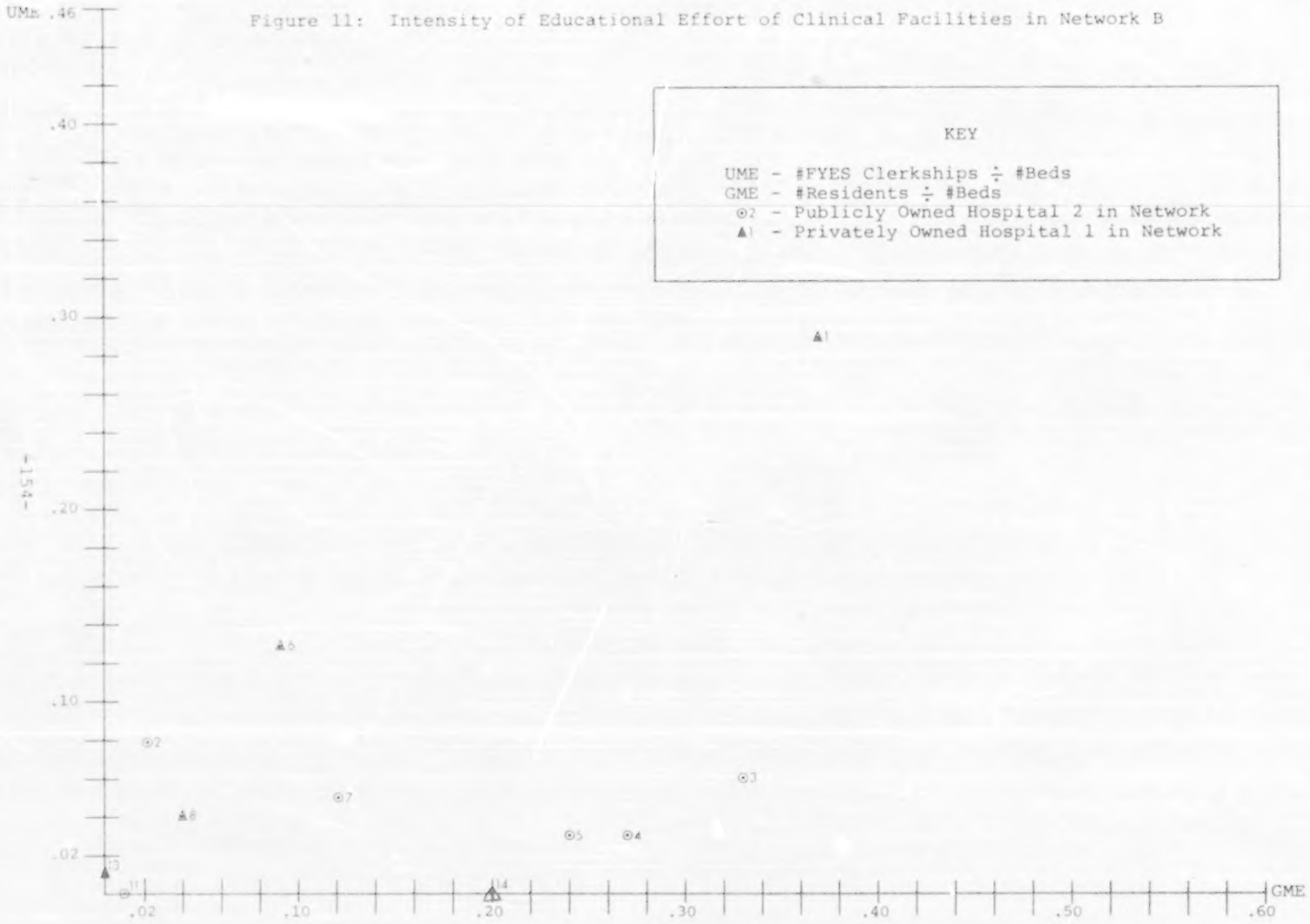
CHART III-B

Distribution of
Graduate Medical Education (GME)
and Resources
in Network B

Institution	#Residents Integrated Programs*	#Residents Affiliated Programs**	#Residents All Programs	Teaching Beds***	Total Beds
B1 University Hospital	137	0	137	370	370
B2 V.A. Hospital	38	40	139	618	708
B3 City Hospital	26	36	172	335	521
B4 Military Hospital	0	0	262	0	963
B5 Military Hospital	0	0	178	0	729
B6 Private Community Hospital	23	0	23	261	261
B7 Community-County Hospital	42	0	72	296	616
B8 Private Community Hospital	14	0	14	142	397
B9 Private Community Hospital	1	0	NI	NI	350
B10 City Mental Health Center	7	0	7	NA	NA
B11 Federal Psychiatric Hospital	0	0	30	0	3450
B12 Psychiatric Home	1	0	1	NI	NI
B13 Private OB Hospital	Fellows	0	NI	NI	154
B14 Private Tertiary Hospital	Fellows	0	170	NI	871

* Medical School Sponsored Programs
** Medical School Assisted Programs
*** Beds on Services with GME Affiliated or Integrated
NI - no information
NA - not applicable

Figure 11: Intensity of Educational Effort of Clinical Facilities in Network B



APPENDIX IIc -- NETWORK C

CHART I-C

NETWORK C

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
C1 University Hospital	M	1(21)	1(0)	1(0)	1(4)	2(7)	1(17)	6(15.5)	1(3)	1(2)	1(5)	2(2.5)	18(77)
	N												0
	R	5.5		3	3.5		6						18
	E							1		4		2	7
C2 State Mental Institution	M	1(1)				2(4)	1(0)	2(.5)					6(5.5)
	N												0
	R					5.5							5.5
	E											4	4
C3 Church Owned Hospital	M	1(10)			1(6)	2(2)	1(9)	4(8)	1(3)	1(1)		1(.5)	12(40.5)
	N			1 planned								1(5)	1(5)
	R	4			1.5	2	2		2.5				12
	E									1.5			1.5
C4 Private Community Hospital	M	1(10)			1(7)		1(7)	2(4)	1(3)			2(2)	8(33)
	N			1(8)				1(6)					2(14)
	R	4			1.5		2.5		2.5				10.5
	E											2	2
C5 Church Owned Hospital	M	1(7)			1(3)		1(6)	1(0)	1(3)			1(1)	6(20)
	N			1(11)							1(6)		2(17)
	R			2	1		2.5		2				7.5
	E												0
C6 Private Community Hospital	M												0
	N			1(5)									1(5)
	R												0
	E												0
C7 Private Community Hospital	M												0
	N			1 planned									1 planned
	R												0
	E												0

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs(# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART II-C

Distribution of
Undergraduate Medical Education (UME)
and Resources
in Network C

Institution	#FYES*	#Residents**	Total #Residents	#Teaching Beds***	Total #Beds
C1 University Hospital	25	62	77	169	169
C2 State Mental Institution	9.5	4	5.5	928	986
C3 Church Owned Hospital	13.5	40	45.5	629	629
C4 Private Community Hospital	12.5	29	47	483	522
C5 Church Owned Hospital	7.5	23	37	350	350
C6 Private Community Hospital	0	0	5	0	210

* Full Year Equivalent Student
** Residents in Specialties with UME
*** Beds on Services with UME

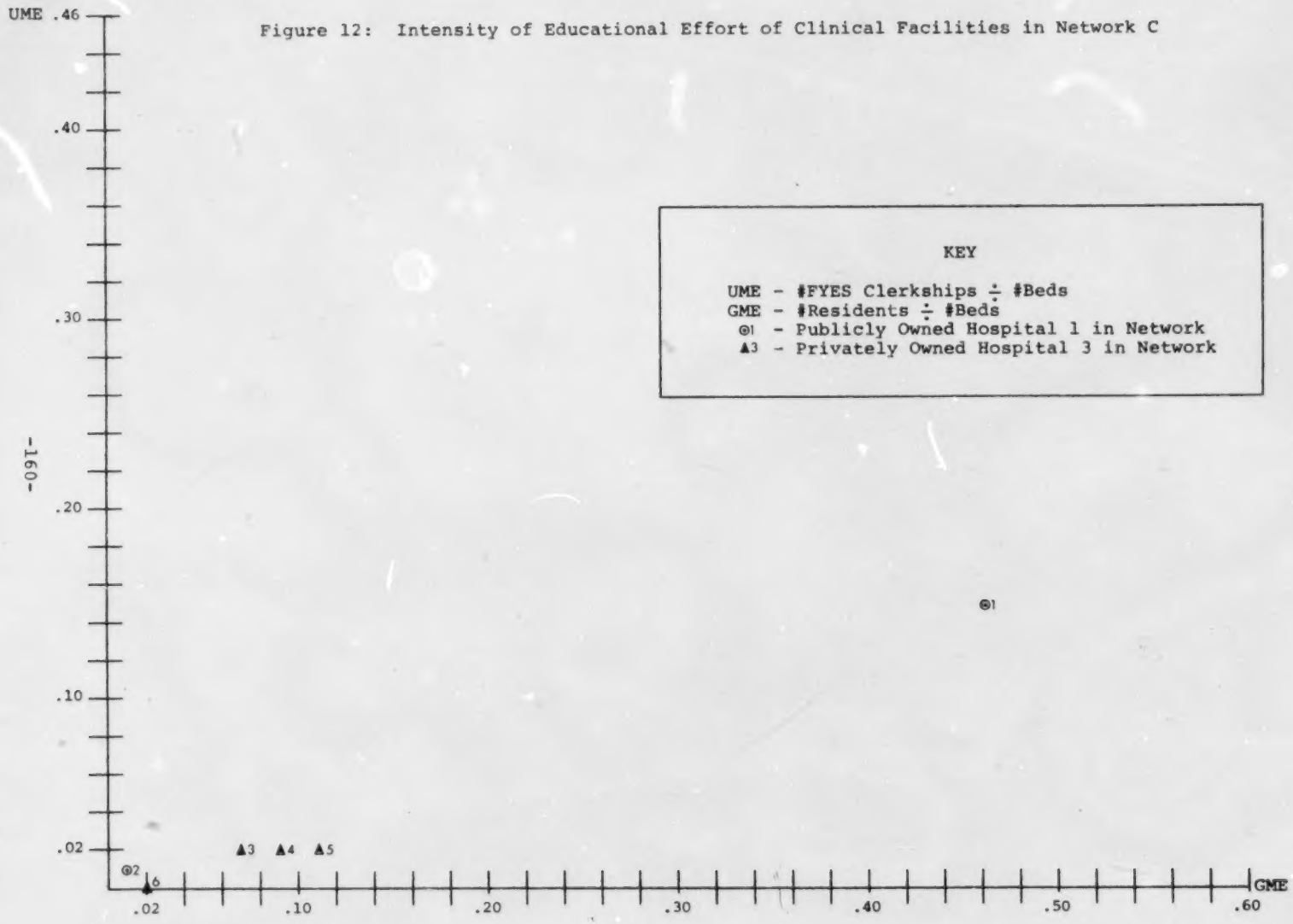
CHART III-C

Distribution of
Graduate Medical Education (GME)
and Resources
in Network C

Institution	#Residents Integrated Programs*	#Residents Affiliated Programs**	#Residents All Programs	Teaching Beds***	Total Beds
C1 University Hospital	77	0	77	169	169
C2 State Mental Institution	5.5	0	5.5	986	986
C3 Church Owned Hospital	40.5	0	45.5	629	629
C4 Private Community Hospital	33	8	47	483	522
C5 Church Owned Hospital	20	11	37	350	350
C6 Private Community Hospital	0	5	5	210	210

* Medical School Sponosred Programs
** Medical School Assisted Programs
*** Beds on Services with GME Affiliated or Integrated

Figure 12: Intensity of Educational Effort of Clinical Facilities in Network C



APPENDIX IId -- NETWORK D

CHART I-D

NETWORK D

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
D1 Private Tertiary Hospital	M	1(61)	3(10)		1(26)	1(35)	1(43)	6(40)	1(19)	2(23)	1(15)	1(03)	18(275)
	N												0
	R	21	6		25	23	20		18				113
	E		0.5					2		6		27	35.5
D2 Cancer Hospital	M	2(84)	2(05)		1(02)		1(06)	5(13)	1(1)				11(38)
	N				1(25)		1(37)	4(31)	1(5)	1(26)	1(15)	1(01)	11(213)
	R	3	2										5
	E		1.5						1			15.5	18
D3 Orthopedic Hospital	M	1(03)	1(24)		1(02)			1(13)					3(6)
	N												1(13)
	R						4						4
	E		3.5										3.5
D4 Suburban Tertiary Hospital	M	1(50)	1(03)		2(18)	1(06)	1(28)	1(03	2(09)	2(06)	1(06)	1(04)	13(133)
	N												14.2
	R	3.2			3		6		2			4	4.5
	E		0.5										
	M												
	N												
	R												
	E												
	M												
	N												
	R												
	E												
	M												
	N												
	R												
	E												

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs(# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART II-D

Distribution of
Undergraduate Medical Education (UME)
and Resources
in Network D

Institution	#FYES*	#Residents**	Total #Residents	#Teaching Beds***	Tota #Bed
D1 Private Tertiary Hospital	148.5	260	275	1,085	1,08
D2 Cancer Hospital	23	96	251	137	44
D3 Orthopedic Hospital	7.5	17	19	66	20
D4 Suburban Tertiary Hospital	18.7	115	133	449	46

* Full Year Equivalent Students
** Residents in Specialties with UME
*** Beds on Services with UME

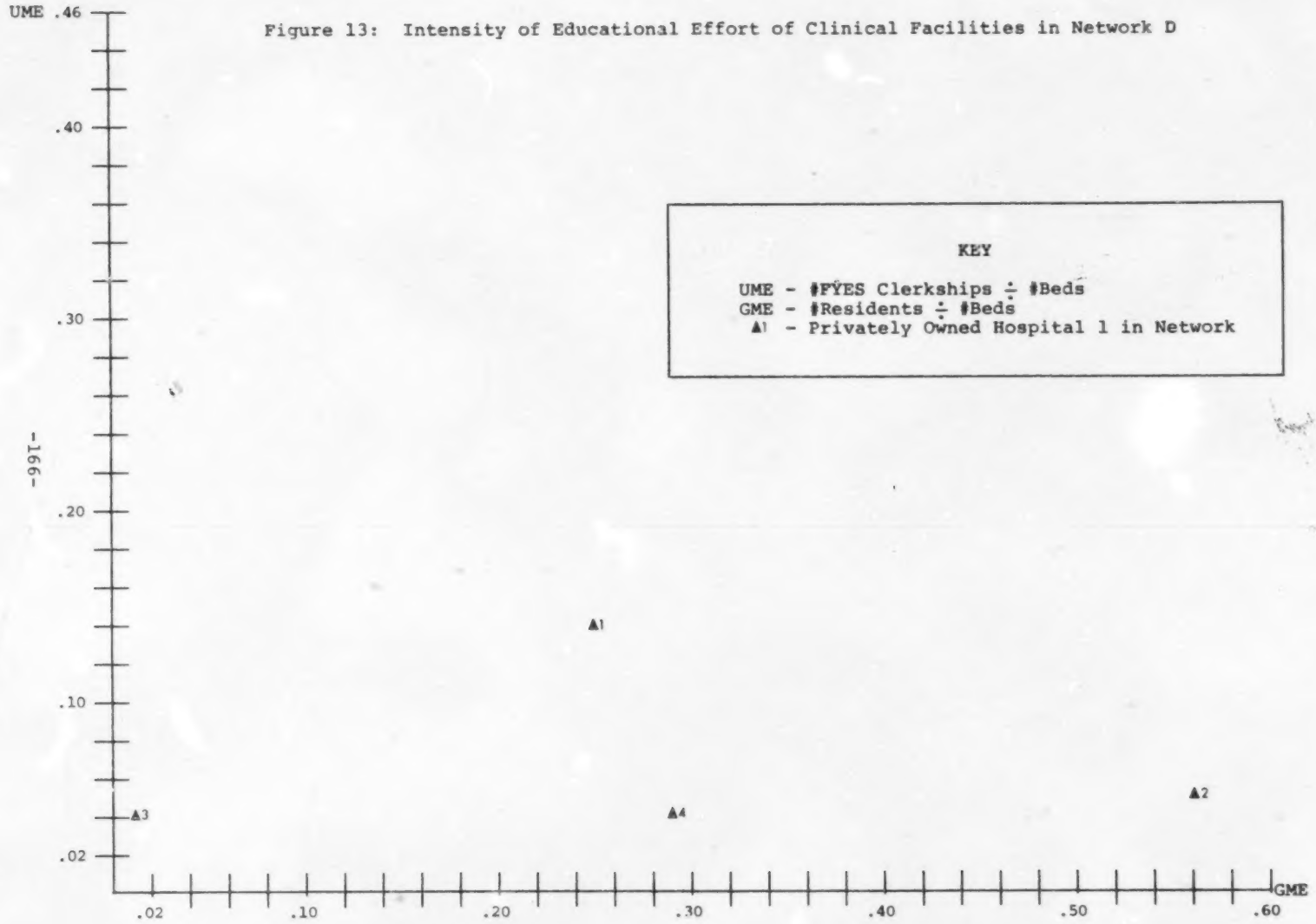
CHART III-D

Distribution
Graduate Medical Education (GME)
and Resources
in Network D

Institution	#Residents Integrated Programs*	#Residents Affiliated Programs**	#Residents All Programs	Teaching Beds***	Total Beds
D1 Private Tertiary Hospital	275	0	275	1,085	1,085
D2 Cancer Hospital	38	0	251	449	449
D3 Orthopedic Hospital	6	0	19	66	200
D4 Suburban Tertiary Hospital	1	0	133	464	464

* Medical School Sponsored Programs
** Medical School Assisted Programs
*** Beds on Services with GME Affiliated or Integrated

Figure 13: Intensity of Educational Effort of Clinical Facilities in Network D



APPENDIX IIe -- NETWORK E

CHART I-E

NETWORK E

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
E1 City Hospital	M	1(25)	9(30)	1(4)	3(19)	1(8)	1(18)	8(23)	1(12)	1(8)	1(6)	1(12)	28(165)
	N												0
	R	24			11	9	19		17				80
	E	16			.7	1	2.7		2	8	1	7.5	38.9
E2 Veterans Administration Hospital	M	1(20)	8(10)	1(.5)		1(6)	1(11)	8(15.5)		1(3)	1(3)		22(69)
	N												0
	R	25				5	6						36
	E	5											5
E3 Private Community Hospital	M	1(3)	3(4)		3(22)	1(9)	1(15)	4(7)	1(3)	1(1)	1(2)	1(2)	17(68)
	N												0
	R	3			11	4	13.8		2				33.8
	E	1			3.4	0.4	1			3	1		9.8
E4 Private Community Hospital	M	1(3)	1(1)				1(5)	2(5)					4(14)
	N												0
	R						7.7						7.7
	E	1					0.5						1.5
E5 Proprietary Hospital	M			1(4)			1(6)						2(10)
	N	1(8)			1(6)				1(2)				3(16)
	R						6.5						6.5
	E	2					0.7						2.7
E6 Crippled Children's Hospital	M							1(4)					1(4)
	N												0
	R						5						5
	E												0
E7 Rehabilitation Institute	M											1(1)	1(1)
	N												0
	R												0
	E											0.3	0.3

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs (# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART I-E Cont'd

NETWORK E

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
E8 Psychiatric Clinic	M					2(6)							2(6)
	N												0
	R					4							4
	E												0
E9 Private Community Hospital	M			1(10.5)									1(10.5)
	N												0
	R			4									4
	E			1						0.3			1.3
E10 Small City Hospital	M			1(6)									1(6)
	N												0
	R												0
	E			0.5									0.5
E11 Remote County Hospital	M			1( )									1( )
	N												0
	R			1									1
	E												0
E12 Remote Outpatient Clinic	M			1(4)									1(4)
	N												0
	R						6						6
	E												0
	M												
	N												
	R												
	E												
	M												
	N												
	R												
	E												

M = Med School sponsored programs(# of residents) N = non-Med school sponsored programs(# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART II-E

Distribution of
Undergraduate Medical Education (UME)
and Resources
in Network E

Institution	#FYES*	#Residents**	Total #Residents	#Teaching Beds***	Total #Beds
E1 City Hospital	118.9	161	165	370	370
E2 Veterans Administration Hospital	41	62.5	69	444	444
E3 Private Community Hospital	43.6	55	68	492	492
E4 Private Community Hospital	9.2	14	14	406	406
E5 Proprietary Hospital	9.2	14	26	NI	549
E6 Crippled Children's Hospital	5	4	4	NI	100+
E7 Rehabilitation Institute	.3	1	1	34	34
E8 Psychiatric Clinic	4	6	6	0	0
E9 Private Community Hospital	5.3	10.5	10.5	NI	328+
E10 Small City Hospital	.5	6	6	140	140
E11 Remote County Hospital	1	0	0	NI	272+
E12 Remote Outpatient Clinic	6	0	4	0	0

* Medical School Sponsored Programs
** Medical School Assisted Programs
*** Beds on Services with UME
\+ Source - AHA Directory, 1975 ed.
NI No information

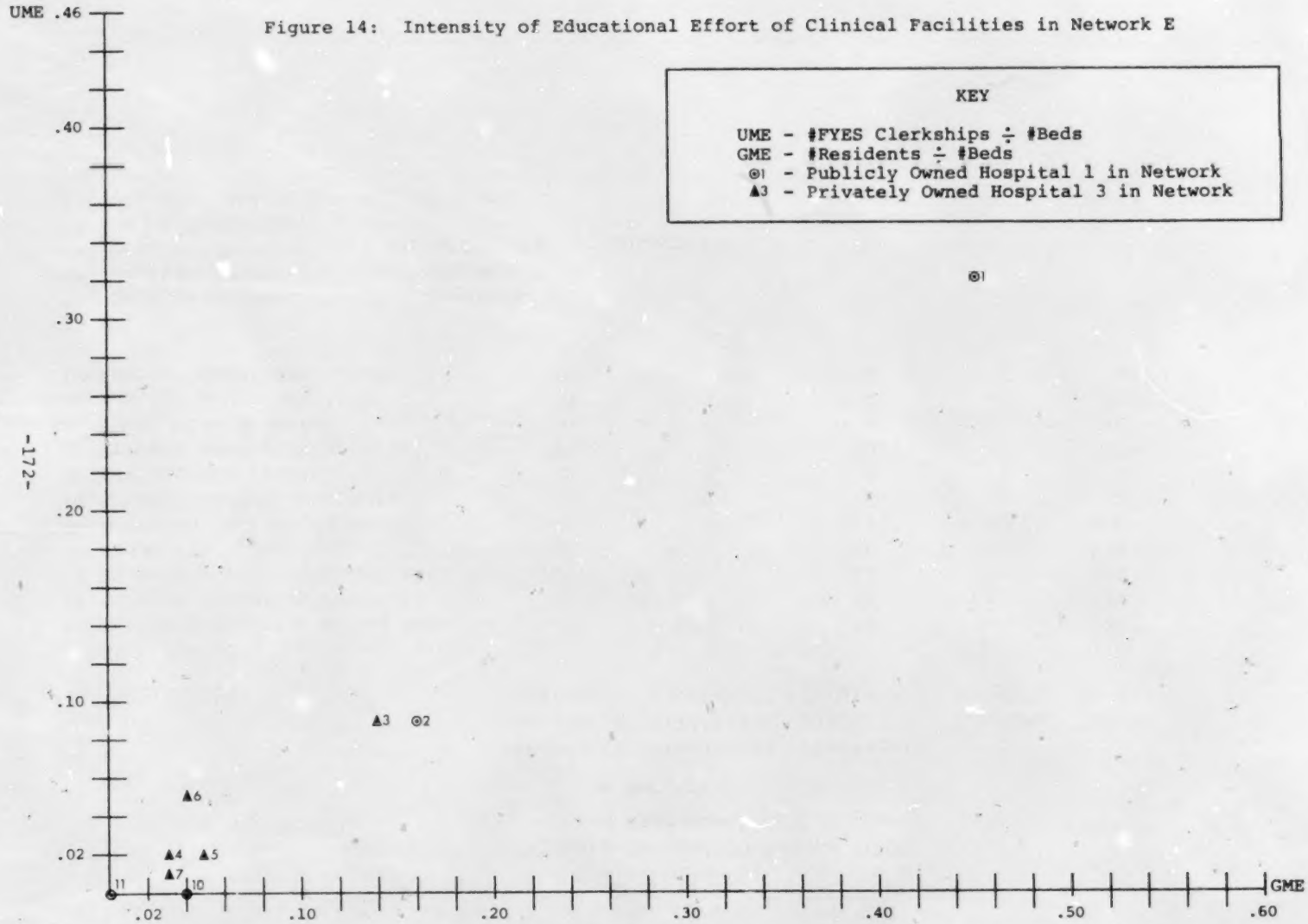
CHART III-E

Distribution of
Graduate Medical Education (GME)
and Resources
in Network E

Institution	#Residents Integrated Programs*	#Residents Affiliated Programs**	#Residents All Programs	Teaching Beds***	Total Beds
E1 City Hospital	165	0	165	370	370
E2 Veterans Administration Hospital	69	0	69	444	444
E3 Private Community Hospital	68	0	68	492	492
E4 Private Community Hospital	14	0	14	406	406
E5 Proprietary Hospital	10	0	26	NI	549
E6 Crippled Children's Hospital	4	0	4	NI	100+
E7 Rehabilitation Institute	1	0	1	34	34
E8 Psychiatric Clinic	6	0	6	0	0
E9 Private Community Hospital	10.5	0	10.5	NI	328+
E10 Small City Hospital	6	0	6	140	140
E11 Remote County Hospital	0	0	0	NI	272+
E12 Remote Outpatient Clinic	4	0	4	0	0

* Medical School Sponsored Programs
** Medical School Assisted Programs
*** Beds on Services with GME Affiliated or Integrated
NI - no information
\+ Source - AHA Directory, 1975 ed.

Figure 14: Intensity of Educational Effort of Clinical Facilities in Network E



APPENDIX IIf -- NETWORK F

CHART I-F

Network F

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
F1 University Hospital	M	1(19)	2 (5)	1 (11)	3 (14)	2 (27)	1 (11)	7 (30)	1 (9)	3 (11)	1 (10)	1 (12)	23(159)
	N												00(000)
	R	4.3			7	5	8		5				29.3
	E	0.5	37.0	4.5	2.3	6.5	0.7	20.1	1	27.7	3.3	9.5	113.1
F2 County-owned Hospital	M	1 (19)	2 (3)	1 (2)	1 (3)	1 (8)	1 (11)	7 (16)	1 (1)	3 (5)	1 (4)	1 (3)	20(75)
	N												00(000)
	R	10.3			4.3	6.5	12		1				34.1
	E	5.3	27.4	6.0		5.3	0.3	21.3	0.3		3.3	20	89.2
F3 Veterans Admin. Hospital	M	1 (21)	1 (2)	1(3)		1 (9)	1(6)	7 (14)		3 (4)	1 (5)	1 (4)	17 (68)
	N												00(000)
	R	10				4.5	5.7						20.2
	E	1.7	26.7			1	0.5	11.2			3.3		44.4
F4 United States Public Health Service Hosp	M	1 (12)	2 (4)				1 (3)	3 (4)	1 (3)	1 (1)	1 (4)	1 (3)	11 (34)
	N												00(000)
	R	5.5					5.5		1.5				12.5
	E	2.5	14.2		0.3		0.5	5.5			3.3		26.3
F5 Private Children's Hospital	M		1 (3)		3 (26)	1 (4)	1 (2)	4(10.5)		2 (1)	1 (1)	1 (1)	14(48.5
	N						1 (1)						1 (1)
	R				14.0								14.0
	E		15.3		6.0			5.6					26.9
F6 Private Community Hospital	M							3 (2)	1 (1)	1 (1)			5 (4)
	N	1 (18)					1 (20)	1 (18)		1 (4)	1 (2)		5 (62)
	R												00(000)
	E		7.9					0.3	0.5		0.7	0.3	9.7
F7 Private Community Hospital	M	1(3)						3(5.5)	1 (3)	2 (3)	1 (5)		8(19.5)
	N						1 (12)						1 (12)
	R												
	E		2					3			0.7		5.7

M = Med School Sponsored programs (# of residents) N= non-Med school sponsored programs (# of residents)
R = # FYES in Required clerkships E = #FYES in elective clerkships

CHART I-F Cont'd.

Network F

SUMMARY OF PROGRAMS

NOTES: *program sponsored by Hospital Consortium; number of positions in each hospital unknown;

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
F8 Church-owned Hospital	M	1 (8)		1 (1)									2 (9)
	N			1 (3)			1 (6)						2 (9)
	R	4.7											4.7
	E		0.7										0.7
F9 Military Hospital	M						1(var)	2 (1)	1 (0)				4 (1)
	N	1 (25)		1 (22)	1 (14)			1 (7)			1 (8)		5 (76)
	R								8.3				8.3
	E				0.7			3	0.5				4.2
F10 Private Community Hospital	M						1(var)						1 (0)
	N												0 (0)
	R												0.0
	E											5.5	5.5
F11 Community Hospital (Remote)	M												0 (0)
	N												0 (0)
	R												0.0
	E			1.5	1				3				5.5
F12 Hospital Consortuim (Remote)	M												0 (0)
	N			1 (12)*									1(12)*
	R												0.0
	E												0.0
F13 Community Hospital (Remote)	M												0.0
	N			1 ( )*									1 ( )*
	R												0.0
	E												0.0
F14 Community Hospital (Remote)	M							1 (5)					1 (5)
	N			1 ( )*							1 (6)		2 (6)
	R												0.0
	E												0.0

M = Med School sponsored programs (# of residents) N= non-Med School sponsored programs (# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART I-F Cont'd.

Network F
SUMMARY OF PROGRAMS

NOTES: *program sponsored by Hospital Consortium; number of positions in each hospital unknown; ** one position rotated among family medical center and 3 other hospitals

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
F15 Church-owned Hosp (remote)	M	1 (2)									1 (1)		2 (3)
	N			1 ( )*					1 (10)	1 (10)			3 (20)
	R												0.0
	E				1.5		1.0				1.0		3.5
F16 Family Medical Cen Clinic (Remote)	M												0 (0)
	N			1 ( )*									1 ( )*
	R												0.0
	E			2.3									2.3
F17 Community Hospital (Remote)	M							1 (2)					1 (2)
	N												0 (0)
	R												0.0
	E												0.0
F18 Family Medical Cent Clinic (Remote)	M												0 (0)
	N												0 (0)
	R												0.0
	E			2.25									2.25
F19 Community Hospital (Remote)	M								1 (0)				1 (0)
	N			1 (0)									1 (0)
	R								3.0				3.0
	E												0.0
F20 Family Medical Cent Clinic (Remote)	M	1 (0)		1 (0)**	1 (0)								3(0)**
	N												0 (0)
	R												0.0
	E			3.7									3.7
F21 Community Medical Clinic (Remote)	M	1 (0)					1 (0)						2 (0)
	N												0 (0)
	R												0.0
	E			0.7									0.7

M = Med School sponsored programs (# of residents) N = non-Med school sponsored programs (# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART I-F Cont'd.

Network F

SUMMARY OF PROGRAMS

Affiliated Institution		Medicine	Medical Specialty	Community or Family Medicine	Pediatrics	Psychiatry	Surgery	Surgical Specialty	Obstetrics/Gynecology	Radiology	Pathology	Other	TOTALS
F22 Community Medical Clinic (Remote)	M	1 (1)					1 (1)						2 (2)
	N												0 (0)
	R												0.0
	E	1.0					2.0				0.3		3.3
F23 Psychiatric Clinic (Remote)	M					1 (0)							1 (0)
	N												0 (0)
	R												0.0
	E					1.0							1.0
F24 Community Medical Clinic (Remote)	M												0 (0)
	N												0 (0)
	R												0.0
	E			2.5									2.5
F25 Community Hospital (Remote)	M								1 (0)				1 (0)
	N												0 (0)
	R												0.0
	E								3.0				3.0
	M												
	N												
	R												
	E												
	M												
	N												
	R												
	E												
	M												
	N												
	R												
	E												

M = Med School sponsored programs (# of residents) N = non-Med school sponsored programs (# of residents)
R = # FYES in Required clerkships E = # FYES in elective clerkships

CHART II-F

Distribution of
Undergraduate Medical Education (UME)
and Resources
in Network F

Institution	#FYES*	#Residents**	Total #Residents	#Teaching Beds ***	Total #Beds
F1 University Hospital	113.1	159	159	288	288
F2 County-owned Hospital	123.3	70	75	270	270
F3 Veterans Administration Hospital	64.6	57	68	313	313
F4 United States Public Health Service Hospital	38.8	30	34	211	211
F5 Private Children's Hospital	40.9	42.5	49.5	165	165
F6 Private Community Hospital	9.7	61	66	N.I.	292
F7 Private Community Hospital	5.7	25.5	31.5	N.I.	422
F8 Church-owned Hospital	5.4	8	18	N.I.	357
F9 Military Hospital	12.5	22	77	561	561
F10 Private Community Hospital	5.5	0	variable	N.I.	161+
F11 Community Hospital (Remote)	5.5	0	0	N.I.	118
F12 Hospital Consortium (Remote)	0	0	12	0	0
F13 Community Hospital (Remote)	0	0	0	N.I.	315
F14 Community Hospital (Remote)	0	0	11	N.I.	146
F15 Church-Owned Hospital (Remote)	3.5	1	23	N.I.	518
F16 Family Medical Center Clinic (Remote)	2.3	0	0	0	0
F17 Community Hospital (Remote)	0	0	2	40	40
F18 Family Medical Center Clinic (Remote)	0	0	0	40	40
F19 Community Hospital (Remote)	3.0	0	0	N.I.	227
F20 Family Medical Center Clinic (Remote)	3.7	0	0	42	42
F21 Community Medical Clinic (Remote)	0.7	0	0	0	0
F22 Community Medical Clinic (Remote)	3.3	2	2	0	0
F23 Psychiatric Clinic (Remote)	1.0	0	0	0	0
F24 Community Medical Clinic (Remote)	2.5	0	0	0	0
F25 Community Hospital (Remote)	3.0	0	0	N.I.	216

* Full Year Equivalent Students; ** Residents in Specialties with UME; *** Beds on Services with UME;
NI -- no information; NA -- not applicable; + Source - AHA Directory, 1975 ed.

CHART III-F

Distribution of
Graduate Medical Education (GME)
and Resources
in Network F

Institution	#Residents Integrated Programs *	#Residents Affiliated Programs **	#Residents All Programs	Teaching Beds ***	Total Beds
F1 University Hospital	159	0	159	288	288
F2 County-owned Hospital	75	0	75	270	270
F3 Veterans Administration Hospital	68	0	68	313	313
F4 United States Public Health Service Hospital	34	0	34	211	211
F5 Private Children's Hospital	48.5	1	49.5	165	165
F6 Private Community Hospital	4	0	66	N.I.	292
F7 Private Community Hospital	19.5	0	31.5	N.I.	422
F8 Church-owned Hospital	9	0	18	N.I.	357
F9 Military Hospital	1	0	77	561	561
F10 Private Community Hospital	variable	0	variable	N.I.	161+
F11 Community Hospital (Remote)	0	0	0	N.I.	118
F12 Hospital Consortium (Remote)	0	12	12	0	0
F13 Community Hospital (Remote)	0	0	0	N.I.	315
F14 Community Hospital (Remote)	5	0	11	N.I.	146
F15 Church-owned Hospital	3	0	23	N.I.	518
F16 Family Medical Center Clinic (Remote)	0	0	0	0	0
F17 Community Hospital (Remote)	2	0	2	40	40
F18 Family Medical Center Clinic (Remote)	0	0	0	40	40
F19 Community Hospital	0	0	0	N.I.	227
F20 Family Medical Center Clinic (Remote)	0	0	0	42	42
F21 Community Medical Clinic (Remote)	0	0	0	0	0
F22 Community Medical Clinic (Remote)	2	0	2	0	0
F23 Psychiatric Clinic (Remote)	0	0	0	0	0
F24 Community Medical Clinic (Remote)	0	0	0	0	0
F25 Community Hospital (Remote)	0	0	0	N.I.	216

* Medical School Sponsored Programs; ** Medical School Assisted Programs; *** Beds on Services with GME Affiliated or Integrated; N.I. -- no information; NA -- not applicable; + Source - AHA Directory, 1975 ed.

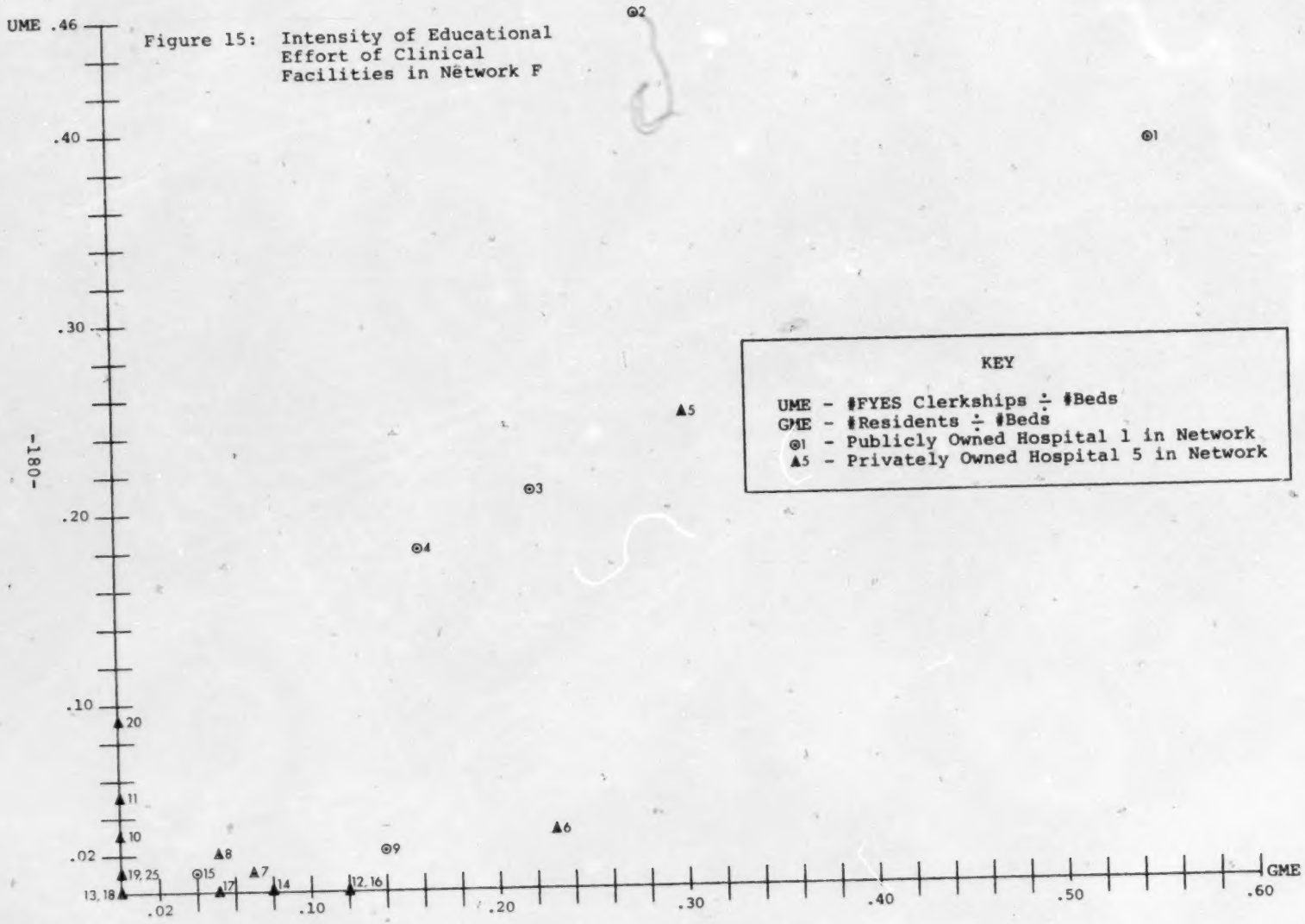



Figure 15: Intensity of Educational Effort of Clinical Facilities in Network F